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ORIGINAL ARTICLES

DR. ADAM HAMMER, SURGEON AND APOSTLE OF HIGHER
MEDICAL EDUCATION.*

By JAMES MOORES BALL, M. D., St. Louis.

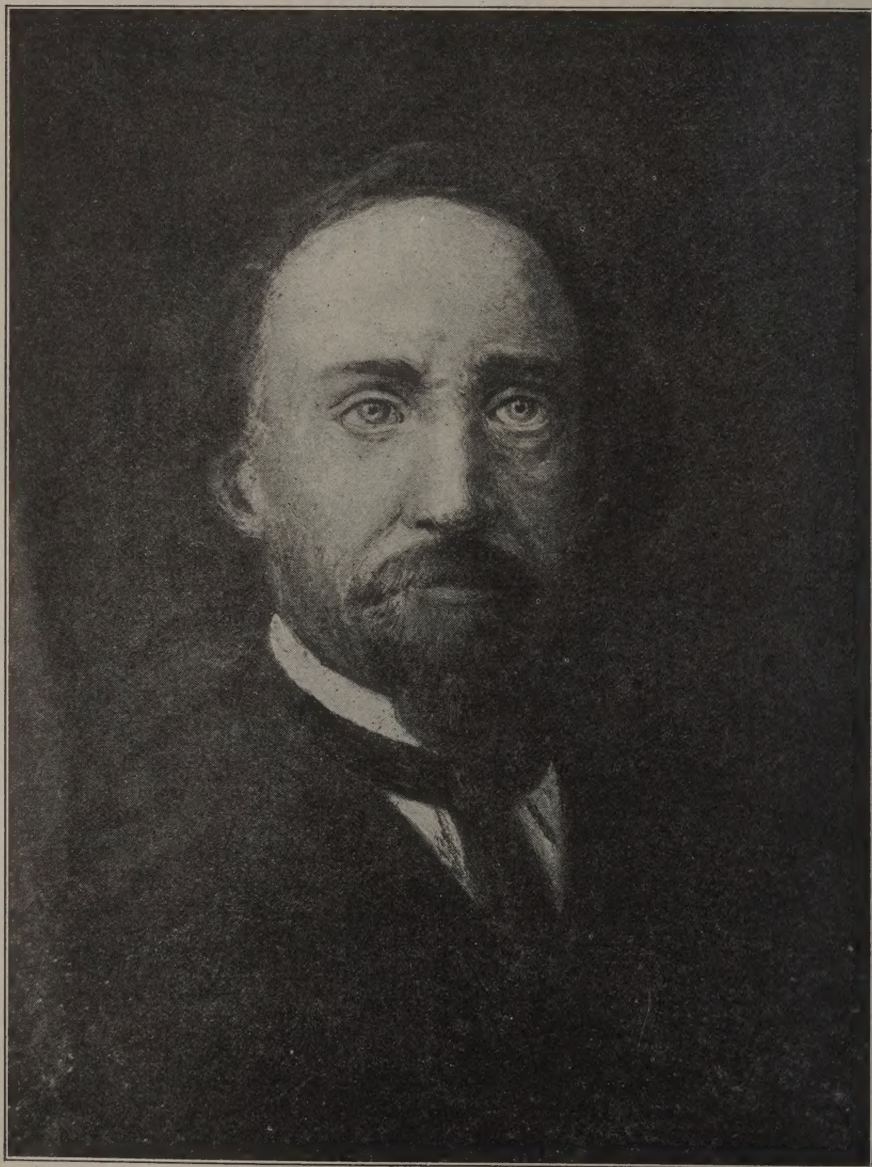
In the few minutes at my disposal I propose, so far as lies in my power, to pay a tribute to the memory of one of the greatest men that St. Louis has ever known; to honor one who was a leader of men, a pioneer in the cause of higher medical education in the United States, a giant in intellect, and a worthy son of the Fatherland over the sea.

In selecting as my subject Dr. Adam Hammer and the Institutions which he Founded, I have done so only after mature deliberation and considerable research, being fully convinced that the memory of this man has not been adequately honored by the medical profession of St. Louis and of Missouri.¹

Among the many strong men who have adorned the medical profession of this State, there was not one whose life was more tempestuous than was that of Dr. Hammer. There was not one whose medical ideals were higher. There was not one whose surgical skill, or whose surgical knowledge, or whose surgical courage, was greater. There was not one whose fame bids fair to last longer. Deprived during his lifetime of much of the credit to which he was justly entitled, drawn frequently into fierce controversies by men, some of whom were his inferiors, often misunderstood and perhaps often misquoted, his reputation has steadily grown since his death. Tested in the crucible of time, his character

*Read in the Surgical Section, Missouri State Medical Association, Jefferson City, May 19, 1909.

¹In *"One Hundred Years of Medicine and Surgery in Missouri,"* St. Louis, 1900, only a few sentences are devoted to Dr. Hammer, and these describe a quarrel with Dr. A. P. Lankford. Goodwin's *"History of Medicine in Missouri,"* St. Louis, 1905, mentions Dr. Hammer in connection with an incorrect account of the Humboldt Medical College.



DR. ADAM HAMMER.

(From a photograph of a painting by Dr. Adolf Neubert.)

stands out in bold relief, and his posthumous fame grows with the passing years. I will venture to predict that the historian, who will write fifty years from now, will place the name of no St. Louis surgeon above that of Dr. Hammer.

Men come. They speak their few lines upon the stage of medical life, and then are lost to view forever. The favorites of fortune, those who fawn and cringe to persons holding positions by virtue not of merit but by nepotism, the devotees of society, the imitators and hack-writers, all that evil brood who never had an original idea in their lives, and like the moon are content to shine by reflected light—these are soon forgotten. It is only to the great reformers, and to persons of marked individuality, that immortality is granted.

For many years, Dr. Adam Hammer stood forth like a great oak, with rugged knots and gnarled branches, battling for higher medical education, for more light, and for the betterment of the medical profession. Surely we owe it to this fair State, and to the medical men of this State, that his name should be honored and his good deeds should be perpetuated.

In the cause of higher medical education, Dr. Adam Hammer was the first and the foremost American leader of his time. He founded institutions, which were the first ones in the United States to stand for three important principles:

- I. An adequate preliminary education.
- II. A graded course of instruction.
- III. Four courses of lectures.

While the American Medical Association was meeting, and resolving, year after year, that something ought to be done to advance the standard of education of physicians, Dr. Adam Hammer was *acting*.

Who was this man Hammer?

In the little town of Mingalsheim, in the grand Duchy of Baden, not far from the city of Mannheim, near the point where the Neckar joins the Rhine, Adam Hammer was born on the 27th day of December, in the year 1818. This province, now one of the fairest parts of Germany, had been cruelly ravaged during the Napoleonic wars. Its inhabitants have long been noted for their love of learning and of liberty. Its chief city is Heidelberg, with its famous University.

Young Hammer was sent to the gymnasium at Bruchsal for his elementary training. In every class he gained the first prize. Leaving the gymnasium, in 1837 he entered the University of Heidelberg, where he gave especial attention to the natural sciences and to mathematics. In the latter subject he acquired remarkable proficiency; in fact, it was originally his intention to become a professor of mathematics. While he was a student in the literary department of the University, his father, becoming dissatisfied with the political status of Germany, migrated to this country.

The son soon turned his attention to the study of medicine, and

in 1842, after a brilliant career as a student, Adam Hammer received the degree of Doctor of Medicine from the University of Heidelberg. The next three years he spent in the Baden army service as assistant surgeon. In 1845 he established himself in private practice in the city of Mannheim. Here he met and married Mrs. Hammer, who is still living. In 1847, in the brief uprising known as the Sönderbundskriege, he tendered his services to the Swiss as an army surgeon. His offer was accepted and he served on the staff of General Ochsenbein until the end of the war.

The love of liberty, the desire for a representative form of government, and the wish for freedom of speech, have always been strong in South Germany. The citizens of Mannheim bitterly resented the double dealing of Frederick William IV. When, in 1848, Hecker raised his standard of revolution against the established government, many of the inhabitants of Baden joined the movement. The revolt was short-lived. Hecker and his friends were forced to seek an asylum, and this revolution, which lost to Germany many of her brainiest men, brought to America such talented individuals as Frederick Hecker, Adam Hammer, Carl Schurz, Louis Bauer and others too numerous to mention. On the 28th day of October, 1848, Hammer, accompanied by his faithful friend Hecker, arrived in St. Louis.

Here Dr. Hammer engaged in private practice. In 1850, at the request of Dr. M. L. Linton, he became a member of the St. Louis Medical Society.

Dr. Hammer early became convinced of the need of reform in American medical education. On February 28th, 1855, the Legislature of Missouri chartered an institution for the purpose of carrying out Dr. Hammer's ideas. This, the *St. Louis College of Medical and Natural Sciences*, was the first institution in the United States to have high preliminary requirements, a graded course of instruction, and four courses of lectures.* Included in the curriculum we find Microscopic Anatomy, Experimental Physiology, Experimental Physics, Mineralogy, Geology and General Botany, Embryology, Pathological Anatomy and Non-Syphilitic Diseases of the Genito-Urinary Organs—many of which branches were not to be found in the curricula of other American medical colleges in the year 1855. This institution closed its doors in 1856, for the reason that three distinguished foreign professors—Hamernik, of the University of Prague; Planer, of the University of Vienna; and Schiel, of the University of Heidelberg—who had promised to join Dr. Hammer in his enterprise—failed to appear.

Ideas, if founded on truth, do not die. In the fall of 1859, Dr. Hammer, assisted by an able faculty, opened the "Humboldt-Institut"**-a college which was unique in the annals of American medicine in this respect, viz., the instruction was given in the German language.

*See note "A," in Appendix.

**See note "B," in Appendix.

Here we find the same high standards, the graded instruction, the four courses of lectures, and the public examination of candidates for the degree of Doctor of Medicine. With the exception of a period of two years during the Civil War, the Humboldt-Institut continued its good work until the year 1866, when it was changed into the *Humboldt Medical College*¹—an English school. In the summer of 1869, the Humboldt Medical College was abandoned; several members of its faculty, with Dr. Louis Bauer (Dean and Professor of Surgery), and Dr. A. J. Steele (Secretary) as leaders, formed the first *St. Louis College of Physicians & Surgeons*.² This new institution, whose faculty embraced many of the ablest physicians, surgeons and specialists that St. Louis has ever known, gave lectures for only three sessions. In 1870, Dr. Louis Bauer chartered the present St. Louis College of Physicians & Surgeons.

In the twenty minutes allotted to this paper, I have not the time to speak appropriately of Dr. Hammer as a surgeon. It must suffice to say that he was fearless, that he performed operations which other surgeons declared to be impossible, that he was the fifth man in the history of surgery to make a complete excision of the scapula,³ that he was the first man in the Mississippi Valley to know surgical pathology,⁴ and that in all things surgical he was not only the peer but was the superior of his associates.

Skillful alike in general surgery and in ophthalmology, he knew the literature of surgery and he was able to impart his knowledge to others.

In an intellectual sense, the institutions which Dr. Hammer founded in St. Louis were German colleges. Most of his colleagues were graduates of famous German universities. They were men of broad culture, and were well versed not only in medicine but in the collateral sciences. It is doubtful if, to-day, any medical college faculty in this State can show so large a proportion of highly educated professors as was to be found in the *St. Louis College of Medical and Natural Sciences* and in the *Humboldt-Institut*. The high preliminary requirements, the four courses of lectures, the public examination of candidates for graduation, the graded course of instruction, the stress laid upon laboratory and clinical work, and the teaching of numerous specialties that were practically unknown in this country—all these were features which stamp Hammer's schools as of German origin.

It is no credit to the medical profession of St. Louis, or of Missouri, or of the great Southwest, tributary to this State, that the high-grade medical institutions founded by Dr. Hammer were permitted to

¹See note "C," in Appendix.

²See note "D," in Appendix.

³See note "E," in Appendix.

⁴Dr. Hammer's Lectures on Pathological Anatomy were published in the *Humboldt Medical Archives*, September, 1867, to July, 1868.

pass away. It is no credit to the two old and powerful schools¹ then existing in St. Louis, that they persistently fought every proposition for higher medical education that was advanced by Dr. Hammer.² For the sins committed forty and fifty years ago, we are suffering to-day, in reputation, if not in pocketbook. We missed a glorious opportunity to direct the attention of the civilized world to medical St. Louis. Suppose that a new medical college would open its doors this fall, with very high preliminary requirements, and a graded course of instruction covering eight years of work, would it not cause the oldest inhabitant to sit up and rub his eyes? Yet Dr. Hammer did something not less wonderful than this.

At a time when the Harvard Medical School,³ the University of Pennsylvania, the College of Physicians & Surgeons of New York, and the two old medical colleges of St. Louis, were graduating doctors on two terms of four or four and one-half months' duration, Dr. Hammer's institutions required sixteen months of actual attendance in college. At a time when other colleges were repeating the same lectures year after year, Dr. Hammer's students were receiving graded instruction.

All honor to the memory of Dr. Adam Hammer, Surgeon and Apostle of Higher Medical Education.

APPENDIX.

The preceding paper is based on materials which have been derived from many sources. The writer wishes, first of all, to acknowledge his indebtedness to Dr. Adolf Neubert, of St. Louis, who was present, as a student, at the opening of the "*Humboldt-Institut*," in 1859.

The facsimiles of title-pages of catalogues have been made from originals which are now in the possession of the St. Louis Medical History Club.

Much valuable information concerning the state of medical education fifty years ago, and later, is contained in the medical press of that period. In this connection, especial mention must be made of editorial and other articles which were published in the *Humboldt Medical Archives* (later known as the *Medical Archives*) from September, 1867, to (and including) June, 1870.

The *Transactions of the American Medical Association*, from 1848 to 1860, contain numerous strictures on the medical education of that time.

The portrait of Dr. Hammer is reproduced from an oil painting by his student, Dr. A. Neubert.

The group picture, showing some of the professors of the Humboldt-Institut, was furnished by Miss Thekla Bernays, of St. Louis, whose father and uncle were members of the faculty.

¹The St. Louis Medical College, and the Missouri Medical College.

²See note "F," in Appendix.

³In 1849 the Medical Faculty of Harvard University presented to the American Medical Association a formal defense of the four months' course in preference to a more extended term. See *Transactions Am. Med. Assn.*, Vol. VII., page 58.

Note "A."—The St. Louis College of Medical & Natural Sciences was founded in 1855 for the specific purpose of placing American medical education upon a plane similar to that of the best foreign universities. It was the first school in the United States to require high preliminary qualifications for matriculation, a graded course of instruction, and four courses of lectures. It was chartered on February 28, 1855, by the Legislature of Missouri. The incorporators were: L. A. Benoist, William Bennett, Taylor Blow, John M. Cooper, Franklin A. Dick, Benjamin Farrar, John O'F. Farrar, John Hogan, William Palm, Isaac M. Sturgeon and James Wilson.

The St. Louis College of Medical & Natural Sciences had no graduates.

The Charter defines the amount of instruction to be given and the requirements for the medical degree, as follows:

"Sec. 5. There shall be two courses of lectures delivered during the year—a winter course and a summer course; the two courses conjointly to extend over a period of eight months. The number and order of the lectures shall be discretionary with the Faculty.

"Sec. 6. Students who apply for a degree of 'Doctor of Medicine' must have attended four sessions in this College, or two sessions in some respectable College, and two in this College.

"Sec. 7. The examination for the degree of Doctor shall be public, as also the defense of the thesis."

Courses. First course from October 1, 1855, to February 1, 1856.
 Second course from February 8, 1856, to June 1, 1856.
 Third course from October 1, 1856, to February 1, 1857.
 Fourth course from February 8, 1857, to June 1, 1857.

The St. Louis College of Medical & Natural Sciences opened on October 1st, 1855, with the following

FACULTY.

D. M. COOPER, A. M., M. D.,
 Professor of Surgical Anatomy, Operative Surgery and Dean of the Faculty.

A. HAMMER, M. D.,
 Professor of the Principles of Surgery, Clinical Surgery and Ophthalmology.

J. HAMERNIK, M. D.,
 (Late Professor of Clinical Medicine and Lecturer on Diseases of the Chest in the University of Prague), Professor of the Theory and Practice of Medicine and of Clinical Medicine.

J. PLANER, M. D.,
 (Late First Assistant to Professor Rokitsansky and Lecturer on Pathological Anatomy in the University of Vienna), Professor of Pathological Anatomy and Microscopy.

CHAS. L. LYLE, M. D.,
 (Late of Louisville.) Professor of Anatomy and Physiology.

CIRCULAR

OF THE

St. Louis College

OF

MEDICAL AND NATURAL SCIENCES.

SESSION, 1855-'56.

ST. LOUIS, MO:

PRINTED AT THE REPUBLICAN BOOK AND JOB OFFICE,

1855.

Title-page of the Circular of the St. Louis College of
Medical and Natural Sciences.

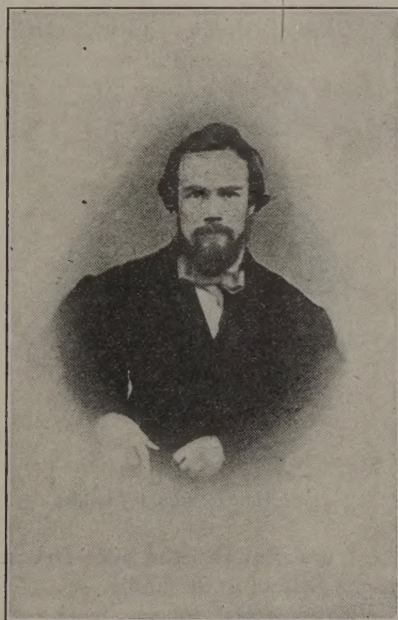
J. SCHIEL, A. M.,
(Late Lecturer on Physics and Chemistry in the University of Heidelberg),
Professor of Natural Philosophy and Chemistry
in all its Branches.

FRED. HAUCK, M. D.,
(Late Prosector at the University of Marburg), Prosector and Demonstrator
of Anatomy.

C. RAU, A. M.,
Lecturer on Mineralogy, Geology and General Botany.

M. P. CULLIN, Janitor.

[The Chair of Obstetrics had not been filled at the time the Circular was printed.]



DR. D. M. COOPER,
Dean of the St. Louis College of Medical and Natural Sciences, 1855.

Extract from the Circular of the Board of Trustees of the St. Louis College of Medical and Natural Sciences:

"Every impartial and right-thinking physician readily acknowledges the great deficiencies in medical education. But even those unacquainted with the difficulties in the study of the natural sciences and medicine, must perceive that the present system is defective to a deplorable degree.

"In the first place, the time allotted to the study of medicine (two

courses of four months each) is too short even for the most extraordinary mind. In the second place, the method of teaching is exceedingly defective, to say the least of it, and this for the reason that the student hears exactly the same lectures in the second course that he does in the first; for all branches of medical science are taught in four months, and all are taught together. As to teaching all branches of medical science in four months, the thing is *simply impossible!* As to teaching all branches together, it is repugnant to reason; for, the student is thus forced to study the *alpha* and *omega* at the same time. Would it not be somewhat absurd to make a child, while learning its alphabet, attend lectures on rhetoric? The defects of the system are so palpable that we consider it unnecessary to enlarge further on them. Exertions have been made to correct them. What has been the result? Each attempt at improvement has been a failure! Why? Most strange to say, because the opposition has come from a part of the medical profession itself, and particularly from that portion to whose hands medical education has been confided. The professors of the innumerable colleges have formed themselves into a phalanx and opposed strenuously all projects of reform. *While they have acknowledged its necessity, they have denied its practicability."*

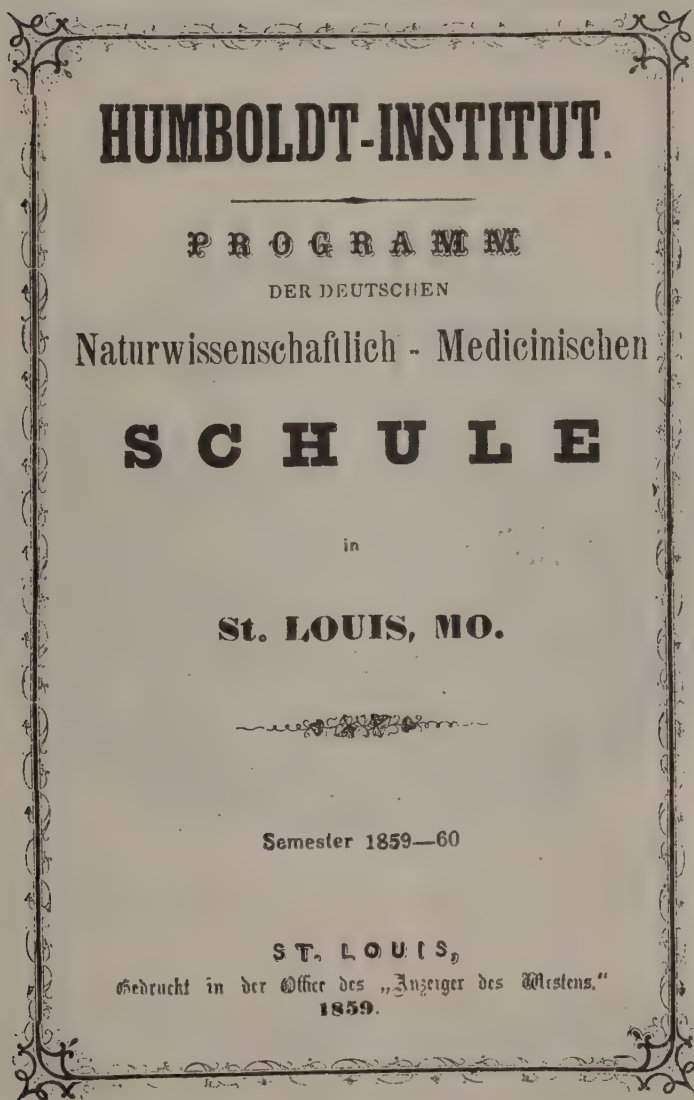


Seal of the Humboldt-Institut.

Note "B." The Humboldt-Institut, oder Deutsche Naturwissenschaftlich-Medicinische Schule in St. Louis.

This was a German medical college, having the same high requirements as its predecessor. It was opened in October, 1859. Instruction was given in 1859-60, and 1860-61. Lectures were suspended during the early part of the Civil War. The College was reopened and lectures were given in 1863-64, 1864-65, 1865-66. Classes were graduated in 1861, '64, '65 and '66. Then, in order to appeal to English-speaking students, the name was changed to the Humboldt Medical College. The Humboldt-Institut had in all about thirty graduates.

The first catalogue (program) is dated August 1, 1859. The college building was located on Ninth street, between Market and Walnut



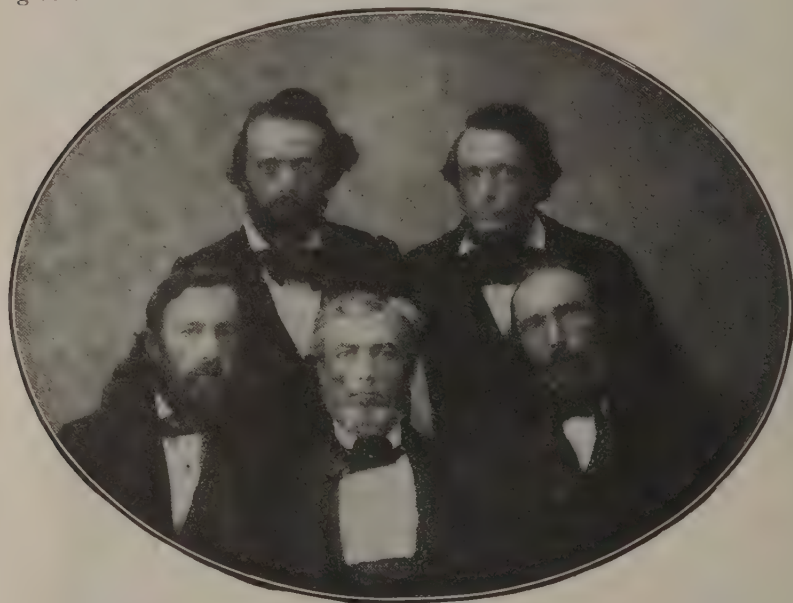
Title-page of the First Announcement of the Humboldt-Institut.

streets, across the alley from Druid's Hall. The building is still in existence.

The Humboldt-Institut was chartered by the General Assembly of Missouri, the Act being approved December 31, 1859. The charter was granted to H. T. Blow, H. Boernstein, A. Hammer, Christian Kribben, Frederick Schulenburg and L. Wagner.

The institution's seal bears the date, October 1, 1859.

Although the opening of the College was announced for October 1, 1859, in fact it opened one month earlier, by reason of its flattering prospects. During September a preliminary course of lectures was given.



G. J. BERNAYS.

— FUNCK.

ERNST SCHMIDT.

C. ROESCH.

A. HAMMER.

Some of the Members of the Faculty of the Humboldt-Institut, 1860-61.
(Courtesy of Miss Thekla Bernays.)

FIRST FACULTY OF THE HUMBOLDT-INSTITUT (1859-60).

MITGLIEDER DER FACULTAET (Faculty).

DR. A. BEHR (Secretary),

Professor der mikroskopischen und pathologischen Anatomie und der Materia Medica.

DR. G. BERNAYS,

Professor der Physiologie, der Geburtshuelfe und der Geburtshuelflichen Klinik.

DR. D. GOEBEL,

Professor der Experimental-Physick, und der hoehern Mathematik.

DR. A. HAMMER (Dean),

Professor der Anatomie, Chirurgie und Augenheilkunde und der Chirurgisch-ophthalmologischen Klinik.

DR. T. C. HILGARD,

Professor der Anatomie, Zoologie, Botanick und Vergleichenden Anatomie.

DR. C. ROESCH,

Professor der allgemeinen und specialen Pathologie und Therapie und der Medicinischen Klinik.

DR. H. STIEREN.

Professor der Chemie und Mineralogie.

COURSES:

First course from October 1, 1859, to January 15, 1860.	
Second course from January 15, 1860, to May 1, 1860.	
Third course from October 1, 1860, to January 15, 1861.	
Fourth course from January 15, 1861, to May 1, 1861.	

LISTS OF SUBJECTS STUDIED IN THE HUMBOLDT-INSTITUT.

First Course from October 1, 1859, to January 15, 1860:

1—Experimental Physics	Prof. Goebel,	5 hours per week
2—Inorganic Chemistry and Mineralogy....	Prof. Stieren,	6 " " "
3—General and Descriptive Botany.....	Prof. Hilgard,	2 " " "
4—Zoology	Prof. Hilgard,	2 " " "
5—Microscopic Anatomy.....	Prof. Behr,	2 " " "
6—Descriptive Anatomy:		
(a) Osteology, Syndesmology, Myology		
and Angiology.....	Prof. Hammer,	4 " " "
(b) Neurology, Splanchnology and		
Special Senses.....	Prof. Hilgard,	4 " " "
7—Physiology	Prof. Bernays,	5 " " "
8—Dissections.		

Second Course from January 15, 1860, to May 1, 1860:

1—Organic and Pharmaceutical Chemistry..	Prof. Stieren,	4 hours per week
2—Comparative Anatomy.....	Prof. Hilgard,	2 " " "
3—Pharmaceutical Botany.....	Prof. Hilgard,	2 " " "
4—Topographic Anatomy.....	Prof. Hammer,	2 " " "
5—General Pathology and Therapeutics....	Prof. Roesch,	3 " " "
6—Surgery and Bandaging.....	Prof. Hammer,	6 " " "
7—Obstetrics	Prof. Bernays,	4 " " "
8—Materia Medica.....	Prof. Behr,	4 " " "
9—Dissections.		

Third Course from October 1, 1860, to January 15, 1861:

1—Special Pathology and Therapy.....	Prof. Roesch,	5 hours per week
2—Surgical Operations.....	Prof. Hammer,	3 " " "
3—Ophthalmology	Prof. Hammer,	2 " " "
4—Toxicology	Prof. Stieren,	2 " " "
5—Diseases of Women and Children.....	Prof. Bernays,	2 " " "
6—Clinic:		
(a) Medical	Prof. Roesch,	4 " " "
(b) Surgical and Ophthalmic.....	Prof. Hammer,	4 " " "
(c) Obstetric	Prof. Bernays,	4 " " "
7—Dissections.		

PROSPECTUS.

OF THE

Course of Instruction

IN THE

HUMBOLDT MEDICAL COLLEGE.

WINTER SESSION,

Commencing September 17, 1866.

Saint Louis, Mo.:
P. M. PINCKARD, PRINTER, NO. 510 PINE STREET.
1866.

Fourth Course from January 15, 1861, to May 1, 1861:

1—Syphilis and Diseases of the Genito- Urinary Organs.....	Prof. Hammer,	2	hours	per	week
2—Medical Jurisprudence.....	Prof. Bernays,	2	"	"	"
3—Pathologic Anatomy.....	Prof. Behr,	3	"	"	"
4—Clinic:					
(a) Medical	Prof. Roesch,	4	"	"	"
(b) Surgical and Ophthalmic.....	Prof. Hammer,	4	"	"	"
(c) Obstetric	Prof. Bernays,	4	"	"	"
5—Dissections.					

Note "C."

HUMBOLDT MEDICAL COLLEGE.

At the breaking out of the Civil War, in 1861, Dr. Hammer enlisted for three months as Lieutenant-Colonel of the Fourth Missouri Infantry. Retiring from the field he was appointed Brigade Surgeon and acted in this capacity until the end of the conflict. It is perhaps needless to say that Dr. Hammer, like so many of the German citizens of St. Louis, was on the side of the Union. Returning to St. Louis he re-established his college under the name "Humboldt Medical College," and adopted the English language as the medium for teaching. This institution was chartered by Irwin Z. Smith, H. W. Leffingwell, J. S. B. Alleyne, A. Hammer, H. S. Leffingwell, A. Wadgymer, D. V. Dean, E. F. Smith, David W. Goebel, Barton Able, John C. Vogle and Fred. Schulenburg.

The first meeting of the incorporators was held at No. 72 Elm street, on the 8th day of June, 1866, at 2 p. m.

"In 1866 the friends of a more thorough and systematic education of medical students, under a liberal charter from the legislature, erected the Humboldt Medical College, on a valuable lot secured on a favorable lease having twenty years to run. This lot is on the corner of Linn and Souldard streets, opposite the City Hospital. The building was erected at a cost of over eight thousand dollars. Of this amount nearly five thousand dollars have been subscribed and paid by the trustees and a few friends of the enterprise."—MS. in hands of St. Medical History Club, dated 1867.

The Humboldt Medical College was a high-grade medical school, requiring sixteen months of actual college work, at a time when other American colleges were graduating their classes on two terms of four months' duration. Lectures were given during 1866-67, '67-68 and '68-69. The Humboldt Medical College graduated three classes, in all 22 men. In the summer of 1869, a split occurred in the faculty. Instruction in the Humboldt College was discontinued. A part of the faculty organized the St. Louis College of Physicians & Surgeons.

FACULTY OF THE HUMBOLDT MEDICAL COLLEGE, 1866-67.

D. GOEBEL, PH.D.,

Professor of Natural Philosophy.

A. WADGYMAR, M. D.,

Professor of Chemistry and Botany.

H. S. LEFFINGWELL, M. D.,
Professor of General and Descriptive Anatomy.

D. V. DEAN, M. D.,
Professor of Physiology, Histology and Toxicology.

G. M. B. MAUGHS, M. D.,
Acting Professor of Materia Medica and Therapeutics.

I. P. VAUGHAN, M. D.,
Professor of Theory and Practice of Medicine and Clinical Medicine.

A. HAMMER, M. D.,
Professor of Principles and Practice of Surgery, Ophthalmology and Clinical Surgery.

G. M. B. MAUGHS, M. D.,
Professor of Obstetrics and Diseases of Women and Children.

HON. JAMES J. LINDLEY,
Professor of Legal Medicine.

A. HAMMER, M. D.,
Acting Professor of Pathological Anatomy.

A. J. STEELE, M. D.,
Prosector and Demonstrator of Anatomy.

CHARLES HEYER, M. D.,
Assistant to the Chair of Pathological Anatomy and Curator of the Pathological Museum.

P. J. LINGENFELDER, M. D.,
Assistant to the Chair of Clinical Medicine.

A. HAMMER, M. D.,
Dean.

H. S. LEFFINGWELL, M. D.,
Secretary.

Note "D."

FACULTY OF THE ST. LOUIS COLLEGE OF PHYSICIANS & SURGEONS.
1869-70.

LOUIS BAUER, M. D., M. R. C. S., Eng.,
Professor of Surgery.

MONTROSE A. Pallen, M. D.,
Professor of Gynecology.

AUGUSTUS F. BARNES, M. D.,
Professor of Obstetrics.

T. F. PREWITT, M. D.,
Professor of Surgical Anatomy and Diseases of the Skin.

J. K. BAUDUY, M. D.,
Professor of Diseases of the Mind and Nervous System.

JOHN GREEN, M. D.,
Professor of Ophthalmology.

G. BAUMGARTEN, M. D.,
Professor of General Pathology and Pathological Anatomy.

I. G. W. STEEDMAN, M. D.,
Professor of Clinical Surgery and Diseases of the Genito-Urinary Organs.

W. B. OUTTEN, M. D.,
Professor of Descriptive Anatomy.

A. J. STEELE, M. D.,
Professor of Military and Minor Surgery, Fractures and Dislocations.

F. H. McARDLE, M. D.,
Professor of Chemistry.

J. M. LEETE, M. D.,
Professor of Physical Diagnosis and Diseases of the Chest.

J. M. SCOTT, M. D.,
Professor of Practice of Medicine and Clinical Medicine.

CHARLES E. BRIGGS, M. D.,
Professor of Physiology.

WM. L. BARRETT, M. D.,
Professor of Diseases of Children.

JAMES F. JOHNSON, M. D.,
Professor of Materia Medica and Toxicology.

WM. T. MASON, LL.B.,
Professor of Medical Jurisprudence.

ALBERT G. JACKES, M. D.,
Demonstrator of Anatomy and Curator of the Museum.

Note "E."

DR. HAMMER'S CASE OF EXCISION OF THE SCAPULA.

This important case was reported under the following title: "Successful Extirpation of the Entire Left Scapula and Acromial End of the Clavicle, with Preservation of the Arm."—*Medical Reporter* (St. Louis), March, 1866.

Dr. Hammer was under the impression that this was the second case on record, the first one having been operated by Prof. B. Langenbeck, of Berlin, in 1855; but further search showed that Prof. Syme, of Edinburgh, had made the same operation three times (October, 1856; October, 1862; and November, 1863). Dr. Hammer's operation was made in September, 1860, and it was supposed to be the third one. A further search of the literature shows that Dr. Hammer's case was the fifth one.

Note "F."

MEDICAL EDUCATION IN 1867.

I.

The state of medical education in the year 1867, as regards not only Missouri but the entire country, and the attitude of the St. Louis and the Missouri Medical Colleges, may be judged by the following editorial which appeared in the *Humboldt Medical Archives*, October, 1867, page 109:

"MEDICAL EDUCATION.

We have received the circular of the committee appointed by the Convention of Delegates from Medical Colleges, called for the purpose of revising the system of Medical College Instruction in this country, and which convened in Cincinnati May 3d, 1867. This circular is addressed to 'Medical Colleges,' and puts some very pertinent questions to them. How they will respond remains to be seen, but we venture to believe that the object to be attained will not be accomplished. Why we utter such a proposition, is owing to the fact that the profession is not yet sufficiently impressed with the idea that knowledge, not pretence, is necessary. Here in St. Louis, the Humboldt Medical College, the pioneer in reform, the first and only school in the length and breadth of the land which essays this mighty gage, receives the *congratulations* of the medical community, who send their students where they can easiest graduate, and not where they are indoctrinated from the simple to the complex, as is requested by the committee, composed of Drs. Davis, Gross, Blackman and Donaldson. We tell these gentlemen not to wait for a simultaneous action of the entire number of medical schools in the country, but to urge their own faculties to buckle on the harness and go forth to the fight. If they do it, representing four great colleges, then we will be just that number more of valiant soldiers doing battle in a good cause.

What if the number of students falls off, gentlemen professors, for a few years? Are you not willing and anxious to promote the welfare of your profession? You certainly do not desire to make any money out of your professorships, for if you did, then you would not labor so hard for the general welfare. Make the sacrifice now, and then the other colleges will not hesitate to follow your example, but until you act more, and talk less, we are disposed to believe that the Teachers' Convention will result in a *fiasco*.

Here in St. Louis, notwithstanding every one admits the principle of reform in medical education, two powerful schools do all they can not to promote it. One school absolutely repudiated the Convention in Cincinnati, and the other failed to be represented. If we of St. Louis are divided in the proportion of two to one against medical reform, as regards the courses of instruction of medical colleges, how are we to judge of the whole country? We have our opinions on these matters, and we shall see, that to accomplish great results, corresponding sacrifices must be made."

II.

(*Humboldt Medical Archives*, December, 1867.) At a meeting of the St. Louis Medical Society, held on the 26th day of October, 1867, a committee was appointed "to invite the medical profession of the State of Missouri to assemble in convention, in the City of St. Louis, on the second Tuesday of December, 1867, at 12 M., for the purpose of

re-organizing a State Medical Association, and to take some steps toward securing the passage of an act, by the Missouri Legislature, having for its object the future suppression of knavery and quackery in the profession."

The convention met at the appointed time, and, after effecting an organization, listened to a communication from the St. Louis Medical Society, which, after numerous preambles, says:

"Therefore, we beg leave, respectfully to suggest, that on the part of this Association a memorial be presented to the Legislature of the State of Missouri, requesting that body to enact a law to the following effect:

"1. That hereafter each and every person, midwives included, before being permitted to engage in the practice of medicine in any of its branches in the State of Missouri, shall be required to give ample and satisfactory evidence of qualification before a board of medical examiners, to be appointed every four years by the Medical Association of the State of Missouri, subject to the approval of the Governor, and to be located in the City of St. Louis. The board to consist of five members, whose duty it shall be to examine carefully and rigorously everyone applying for examination, and if found worthy and competent, to grant a certificate to the same.

"2. That persons applying for examination may have the privilege of using either the German or French language, instead of the English, in undergoing their examination.

"3. That any person violating this enactment shall not be permitted to collect any fee by law, and shall be fined \$—— for each and every offense, and suffer imprisonment until such fine be paid.

Respectfully,

A. HAMMER, M. D.,
Chairman of the Committee.
M. MARTIN, M. D.
M. L. LINTON, M. D.
S. J. NEWMAN, M. D."

This communication gave rise to a prolonged and violent discussion lasting the greater part of two days.

"After an ineffectual effort to rescind the rule fixing the time for taking the vote at ten o'clock, the vote was taken upon the memorial, and resulted 52 in favor of and 38 against the memorial, 32 not voting, as follows:

AYES.

H. B. Allen, R. S. Anderson, St. Louis, Mo.; E. L. Atkinson, Washington, Mo.; S. C. Baldwin, W. N. Brennan, J. F. Berghoff, W. S. Barker, G. H. Blickhahn, S. H. Bottomley, — Birch, St. Louis,

Mo.; J. P. Chesney, New Market, Mo.; E. E. Coleman, St. Louis, Mo.; G. F. Dudley, D. V. Dean, J. T. Douglas, Fred. Fricke, J. E. Folsom, N. Guhman, N. M. Glasfelter, J. E. Gaverret, A. Green, A. Hammer, T. H. Hammond, R. J. Hill, S. P. Ives, Wm. Johnston, H. Judd, T. Kennard, M. L. Linton, J. M. Leete, C. V. F. Ludwig, W. A. Madill, St. Louis, Mo.; J. J. Miller, Normandy, Mo.; Drake M'Dowell, Alex. Marshall, W. Niehaus, James O'Gallagher, W. B. Outten, M. A. Pallen, St. Louis, Mo.; J. B. Pondrow, Jefferson City, Mo.; C. D. Payne, Moselle, Mo.; J. F. Prewitt, James T. Pirtle, J. F. Rumbold, C. C. Spencer, A. J. Steele, I. G. W. Steadman, J. Spiegelhalter, Jas. R. Washington, J. L. Whipple, J. C. Whitehill, J. M. Youngblood, St. Louis.

NAYS.

J. S. B. Alleyne, B. A. Barrett, St. Louis; J. F. Barbour, New Madrid, Mo.; A. F. Barnes, G. H. Baumgarten, J. Bates, J. W. Clemens, St. Louis; J. Blane, St. James, Mo.; W. H. Cooper, E. De-Courcillon, W. Dickinson, St. Louis; J. P. H. Gray, California, Mo.; J. Green, St. Louis; S. Griswood, New Haven, Mo.; W. W. Grissom, G. Hurt, A. Jaminet, A. Kueckelhan, E. S. Lemoine, St. Louis; W. Lough, Kirksville, Mo.; R. B. Lewis, Flat Hill, Mo.; E. Montgomery, G. M. B. Maughs, St. Louis; L. J. Mathews, Lebanon, Mo.; H. F. Steinhauer, Sappington, Mo.; John Shore, J. M. Scott, B. F. Shumard, C. Sprague, R. Trevey, J. H. Watters, N. C. Washington, St. Louis; G. A. Williams, Boonville, Mo.

NOT VOTING.

V. H. Auler, C. E. Briggs, St. Louis; D. L. Bassett, Florissant, Mo.; G. S. Bryant, E. Beukendorf, J. Fisher, E. H. Gregory, St. Louis; H. C. Gibson, Boonville, Mo.; W. A. Gibson, St. Louis; P. A. Heitz, Palmyra, Mo.; J. Heitzig, J. T. Hodgen, J. F. Johnson, J. B. Johnson, D. Kuhn, J. J. McDowell, M. Martin, G. E. McCosh, P. E. Noel, H. Nagel, C. F. O'Neil, M. M. Pallen, H. C. Pococke, St. Louis; J. Pitman, Kirkwood; F. G. Porter, St. Louis; T. L. Rivers, St. Charles; C. G. Rohlfing, St. Louis; W. Rannells, Laclede; F. Shade, A. Strothotte, R. H. Slingleiff, Fred Wolf, St. Louis."

Note "G."

DEATH OF DR. HAMMER.

Dr. Hammer left St. Louis April 20, 1877, for Germany, intending to pass his remaining days in the Fatherland. He died August 4, 1878.

RESOLUTIONS OF RESPECT.

A meeting of members of the medical profession was held in St. Louis on August 28, 1878, to take action upon the death of Dr. Adam Hammer. A committee offered the following resolutions, which were adopted:

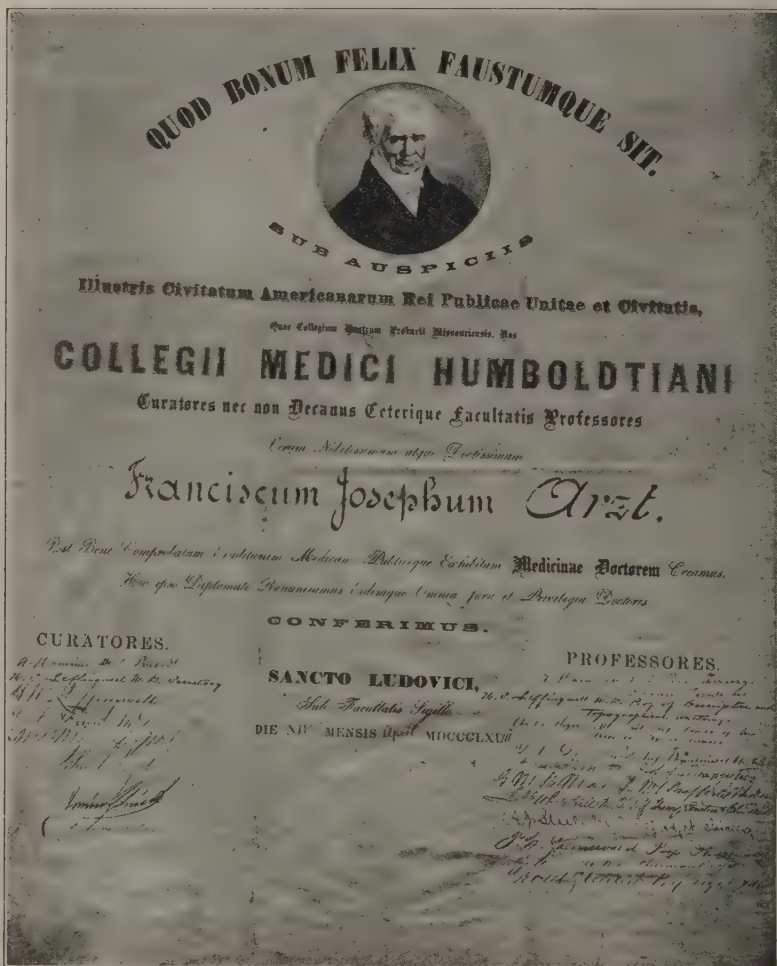
"The victorious general builds the monuments that commemorate his fame upon pyramids of human bones, and his kindred and countrymen glory over his record inscribed in characters of blood. The statesman, the orator, the poet and the preacher transmit their names to posterity by the brilliancy of their intellect and the merit of their deeds. Our noblest and greatest achievements are accomplished in silence and seclusion, without aspirations for glory or hope of reward, where the pestilential poisons permeate the hovels of the poor or the purlieus of the outcasts, the noble, brave and philanthropic physician pursues his profession purely to perform his duty. Let the present glorious, but unchronicled heroism of the medical men of the South, in their terrible trials amidst the scourge of yellow fever, bear eloquent testimony to their bravery and unselfishness—even the imminent danger of death does not deter them from duty. It is our sad duty to-day to pay the last tribute of respect to the memory of one, who, through his devotion to science, his brilliancy of intellect, and his perseverance in the practice of his profession has added something to our storehouse of knowledge.

"Dr. Hammer had his friends and his enemies; but what man of talent has not? Now that he is dead, let us forget his faults and cherish his memory as that of one whose first and last love was for his profession; one who struggled unto death's door desirous of doing his duty; one whose great mind and good deeds entitle him to be enrolled among the benefactors of mankind; one whom the members of the medical profession of St. Louis will ever be proud to acknowledge as their companion and compeer. His reputation was not confined to this city, for his thorough knowledge of the minutest details of his profession, and his great readiness in debate, had rendered his name familiar to most medical men of eminence in Missouri and the United States, and made for him friends among the renowned of Europe. He has written many valuable papers, and delivered some of the ablest lectures ever listened to by students in Missouri.

"He introduced the use of ether in the practice of obstetrics in Germany, simultaneously with Dubois in Paris, and Sir James Y. Simpson in Edinburgh, without, at that time, knowing of the experiments of those renowned men. He was also among the first to explain the true pathology of sunstroke and its proper treatment. So that if he had accomplished nothing of importance in his special fields of study—surgery and pathology—he would still have been entitled to the respect of his profession and the gratitude of mankind. Let us extend our sincere sympathy to his widow and other relatives, and transmit to them a copy of these proceedings in token of the high regard that we entertained for the deceased.

THOMAS KENNARD,
T. F. PREWITT,
ADOLPHUS NEUBERT,
Committee."

(*Missouri Republican*, Thursday, August 29, 1878.)



DR. WILLIAM B. HAZARD'S TRIBUTE TO DR. HAMMER.

"He was one of those keen, incisive minds that do an immense amount of good; arousing the energies of others by their aggressive tendencies. He was one who scattered the seeds of knowledge broadcast, and put new life and energy into others by his example and precept.

"With high attainments and brilliant endowments, he took great pride in being well informed on all subjects of scientific progress, and was ever ready to diffuse his knowledge for the benefit of the profession. For this he will be long and gratefully remembered."—*St. Louis Clinical Record*, September, 1878.

Note "H."

THE HUMBOLDT MEDICAL COLLEGE DIPLOMA.

Note "H." The diplomas issued by the Humboldt Medical College measured $15\frac{1}{2} \times 21\frac{1}{2}$ inches and were in Latin. A lithographic picture—circular in form—of Alexander von Humboldt, was pasted on the upper part of the parchment.

Shortly before the college was abandoned a new diploma was designed, a portrait of Humboldt being lithographed on the same sheet with the text. An example of the first type of diploma is shown in the accompanying illustration.

The diploma shown was issued to Francis Joseph Arzt, on the 14th of April, 1868. It bears the names of the following professors:

A. Hammer, Professor of Surgery and Dean of Faculty.

H. S. Leffingwell, Professor of Descriptive and Topographical Anatomy.

Charles Heyer, Adjunct Professor of Diseases of the Chest and Physical Diagnosis.

D. V. Dean, Professor of Physiology and Histology.

A. Kueckelhan, Professor of Therapeutics.

G. M. B. Maughs, Professor of Obstetrics and Diseases of Women.

Jas. C. Whitehill, Professor of Theory and Practice and Clinical Medicine.

A. J. Steele, Adjunct Professor of Surgery.

F. W. Sennewald, Professor of Pharmacy.

Felix McArdle, Professor of Chemistry.

Geo. M. Stewart, Professor of Legal Medicine.

4500 Olive st.

TUBERCULOSIS AS THE GENERAL PRACTITIONER SEES IT.*

By O. H. BROWN, M. D., Mt. Vernon, Mo.

By the way of introduction, let me say that it is always the "old maid" at the Mothers' Convention who has the longest and the wordiest discussion on the raising of children, and it is the editor of the would-be Farm and Farmers' Journal who expounds the loudest and hardest on the proper management of a farm. On first thought these instances are only amusing; but while the "old maid" and the editor may be entirely impractical in their respective lives, which is usually not the case, they serve the purpose of stimulating some thinking along new paths.

The tuberculosis patients come directly from the general practitioner to the sanatorium, where they stay usually for several months. In my association with a patient there I learn to know something of his former physician, as well as something of the disease. I therefore offer no apology for addressing you under the caption, "Tuberculosis as the General Practitioner Sees It."

Tuberculosis is a disease that is known to have existed twenty-five centuries ago. During the Dark Ages the civilized world was dominated by an unholy theology which demanded absolute submission and adherence to the belief that plagues and epidemics were evidences of an angry Providence. And it was not until the tenth or eleventh century that there was sufficient freedom of thought for there to be any suggestion of the real nature of disease. Not until the seventeenth century was it believed that tuberculosis was infectious; then in some instances precaution was taken against its spread. And I do not need to tell you that it was as recent as 1881 when Koch discovered the tubercle bacillus, the cause of this disease. In 1873, only one short generation ago, Edward L. Trudeau, then a young physician, went to the Adirondack wilderness to try to prolong his life. He was not expected to live, but he did more than live—he demonstrated the curability of tuberculosis. The campaign in the United States against "The Great White Plague" dates from 1885, when Trudeau founded the Adirondack Cottage Sanatorium. Missouri was the fourth State in the Union to found a sanatorium for the treatment of incipient pulmonary tuberculosis.

All people who are ill, if seen by a physician at all, are usually seen first by the general practitioner. Just what per cent. of all sick people are suffering from tuberculosis is impossible to even conjecture; but reliable statistics inform us that one of every eight or ten deaths is due to tuberculosis. Autopsy records show that a large per cent. of people dying from other causes than tuberculosis have at one time or another had tuberculosis.

*Read in the Medical Section, Fifty-second Annual Meeting, Missouri State Medical Association, Jefferson City, May, 1909.

When we consider these statements, it becomes apparent that the general practitioner must see a large number of people who are ill from tuberculosis. While the great scientists and leaders can plan the campaign against "The Great White Plague," it remains for the general practitioner, the private in the ranks, to execute the plans. Just as in a great mortal combat between men, where it is about the head of the private that the bullets and missiles of strife rain the heaviest, so it is in this fight against the most dread disease of mankind—upon the shoulders of the general practitioner must rest the brunt of the burden. He is usually an overworked, occasionally abused, illy paid, much respected, greatly depended upon and an indispensable and honored citizen of every community. I take off my hat, gentlemen, to the general practitioner.

He sees tuberculosis in all its forms and stages, except possibly in its very earliest stages, the very time when he should see it. You will doubtless all accept the statement that a case of tuberculosis, if taken within the first two or three weeks of the inception of its active evidence, will usually respond promptly and satisfactorily to treatment. This brings me up to the main subject matter of the paper. The points that I desire to cover are: firstly, how to get the patients to come to you sufficiently early; secondly, how to recognize pulmonary tuberculosis; thirdly, sanatorium treatment for pulmonary tuberculosis; fourthly, home treatment of pulmonary tuberculosis.

In regard to point one: From a business standpoint alone, if not from a moral standpoint, every physician should feel it his duty to teach the laity that there are certain definite evidences of the early stages of consumption, that these should be recognized and that a physician should be consulted.

Every layman should be given information to the effect that overwork, worry, colds, grip, poor nutrition, etc., predispose to tuberculosis. A prolonged cold, a hacking or morning cough, slight expectoration coming from trachea or lower down, a decline in weight, slight afternoon fever, a flush on cheeks in afternoon, hemorrhage from the lungs, tickling in the trachea, gurgling or rattling or wheezing in the chest, night sweats, pleuritic pain, etc., are usually the first evidences of tuberculosis that the patient will observe. The perplexing question that presents itself is: "How are we to get the laity in possession of these facts?" This can best be done by didactic lectures, illustrated lectures, exhibitions, pamphlets and circulars. Perhaps the most feasible plan for getting lecturers and circulars is through the Missouri State Association for the Relief and Prevention of Tuberculosis. Interest some of the leading citizens of your respective communities in the necessity of the anti-tuberculosis work; with their aid form an anti-tuberculosis league or society, a subdivision of the State organization. Correspond with R. J. Newton, Secretary of the State Society, and see what suggestions he can give. I offer the above as a feasible beginning of an anti-tuberculosis crusade.

The value of these crusades will be scarcely overestimated. Recently a series of exhibitions and lectures were held in Kansas City and the Sanatorium has had more applicants from this place, in the last two months, since the exhibition, than in the previous eighteen months.

In regard to point two: To make a diagnosis of tuberculosis, the patient should be studied in regard to: 1st, the history of his symptoms and, 2d, his physical condition. Any machine, even the human machine, may be apparently in splendid physical condition, and yet will not perform its functions properly; and on the other hand, it may be in very evident unfit condition and yet, in the execution of its functions it may give very little evidence of its unfitness. So I repeat, take heed of what evidence you can elicit from the patient's observations as well as what you can find by examining his body. To get a good history from a patient it is necessary to ask numerous pointed questions. I believe I am safe in saying that it is the rare physician that takes uniformly good histories. In this short paper I cannot go deep into this point, even though such is extremely important. I would have you ask specifically about the cough, whether hacking, or spasmodic, or whooping, or morning or evening; ask also about the tickling or irritation that incites the cough. Find out about the amount, appearance, odor and source—pharynx, trachea or lower—of the sputum. Get all possible facts about the temperature, the night sweats, the chills, the weakness, the nervousness, etc. In case of blood spitting, find out if blood was bright and frothy or whether discolored and partially digested. In short, I would have you go into the history of every symptom in an analytical manner.

In making an examination, strip the patient to the waist and use your eyes and ears to the fullest capacity. I would have you watch especially for areas of dullness and for areas of increased bronchophony. The latter point, the increased plainness of transmission of the whispered voice sound, is of the greatest significance. This finding alone, if accompanied by a typical history, is sufficient evidence on which to make a diagnosis of tuberculosis. Usually with the increased bronchophony there will be dullness, increased pitch of breathing, prolonged expiration, roughness, cog-wheel breathing, rales, a retracted area of the chest and restricted motion of the corresponding side.

In view of the two facts, firstly, that tuberculosis is very prevalent and, secondly, that an early diagnosis is of such paramount importance, I say to you, make your diagnosis of incipient pulmonary tuberculosis, even in the face of some doubt, and place your patient promptly on the proper treatment. In the event of your diagnosis being correct, you perchance have saved your patient's life, and the course of rest and good food will usually do any other trouble some good.

In regard to the sanatorium treatment there is much to say, but brevity must characterize my remarks. The treatment of pulmonary consumption hinges, to an extreme extent, directly upon two points, namely, the giving to the lungs the greatest rest possible, and the building

up of the body to the highest vigor. To accomplish the former, complete and relaxing, mental and physical, rest in the open air is the most efficacious; and for the latter, nutritious food, often in large amounts and usually more than the appetite craves, must be taken. I desire to emphasize the point of rest. For years we have taught and been taught that deep breathing and active outdoor exercise were both indicated in tuberculosis. I say to you, emphatically, this is wrong, and but helps to send the victim on down to the grave. When the patient is only slightly affected with tuberculosis a certain amount of exercise is indicated, but it should be as carefully managed as full doses of strychnine.

I endeavor in all my sanatorium practice to dose out the exercise as carefully as I dose out the poisonous drugs. During the first few weeks that a patient is at the sanatorium, he is kept in or on his bed. He may dress, go to the toilet, and usually sits up to a table for his meals. Some cases are allowed to go into the dining-room after the first week, in the event that there are no marked symptoms of activity of the disease. Usually within a week or two after the beginning of "The Cure," a patient's temperature will be reduced, his weight will be increased from two to ten pounds, and his cough and expectoration will both be slightly bettered. The great difficulty is that the patients soon get to feel so well that they want to be up and doing and it is often impossible to hold some of them down.

During the last twenty-one months we have treated over two hundred patients at the sanatorium. There have been several deaths in the sanatorium. Four of these were from advanced tuberculosis, one from heart disease, one from typhoid, and one from tubercular cerebrospinal meningitis. One-fourth of the two hundred patients were plainly far unsuitable for the treatment at the sanatorium. The disease was either too far advanced or there existed complications of a more or less serious nature. In spite of this there have only been five patients who have done badly in the sanatorium so far as their lungs were concerned. Ten others of the fifty did badly after they left the sanatorium. Several of these did very nicely while in the sanatorium, but after going home lost rapidly. The point that I would emphasize is, that of the two hundred patients, fifty far advanced, that we have had, all but about eight or ten actually made improvement in lung condition while at the sanatorium. Every case anywhere near the incipient stage that we have treated, did well. Does this not speak volumes for the methods we employ?

To show you how promptly the results sometimes come, I desire to mention two or three cases very briefly. The first patient that we had came with some fever, some cough, some expectoration and some hoarseness. She had had hemorrhages. Inside of three weeks her cough, fever and expectoration were all gone, and within a few weeks longer her hoarseness had left her and within two months she had gained 12 to 15 pounds. She is now doing stenographic work in St. Louis and is apparently well.

Perhaps the most striking case I have had was a lady who drove from Boone County in a covered wagon. She had been living out of doors, taking half-mile walks every morning, and had been helping about the camp, and had also been taking some medicine. I had her stop all exercise but allowed her to continue taking the medicine. She began a most astonishing convalescence. Her fever dropped from 102 and 103 to normal, her cough and expectoration decreased rapidly and in five months she went home apparently well, weighing 33 pounds more than when I first saw her. She reports that she is doing very well. I could recite dozens of cases that would illustrate the same points. We so often see patients suffer a relapse from doing too much. Perhaps it is a walk to town and back, or perhaps it is getting excited or frightened at or interested in something that does the harm. The patient that has good common sense and good nerve is the one that will do the best, other things being equal.

To recapitulate on the sanatorium treatment, the important instruments to use are the thermometer and the scale. We keep the patients in bed a week after all fever is gone and keep them eating a sufficient amount to cause them to gain until the proper weight is attained. My experience teaches me that enforced rest and, in some cases, enforced eating are essential. This is the all important law, and the degree of effectiveness of the law depends entirely upon how carefully and nicely it is interpreted and applied. We avoid medicine unless it is plainly indicated. Our results show conclusively that climate does not play the part for which it was formerly given credit.

The home treatment may with difficulty be just as effective as the sanatorium treatment. In the home, however, there is too much to interest the patient and, unless he is totally unable to be up, he will not remain quietly in bed. The discipline of the home is not so rigid as that of the sanatorium. At home usually when the patient feels like doing something he does it, whereas in the sanatorium he is promptly restrained. But not all of the consumptives of the State can be taken into the sanatorium. We have only room for forty-eight (but we are caring for eighty). When necessary, then try home treatment. Put the patient to bed on a screened veranda. Have him nursed as strictly as though he had pneumonia. Make him eat enough to gain a pound or two every week. Keep him as quiet as possible until his fever has disappeared and until his cough and expectoration are much improved. Then the exertion must be begun most cautiously. It must be held in mind that the patient is weaker than when he went to bed. A small amount of exercise means more than it did. Begin by letting him sit up, then later let him begin taking short walks once a week, lengthening them each week so long as no bad effects are noticed. From this on increase the work very cautiously. In case of a backset, all the strict rest has to be gone through with again.

In concluding my remarks, I would impress upon you that the suc-

cessful handling of tuberculosis patients is not easy, even by the plans I have outlined. Every case is a law unto itself. Just as it is impossible for you or me to say that every case of pulmonary tuberculosis must have a certain chain of symptoms, so is it impossible for you or me to outline a practical, effective course of treatment to be applied to every case alike. Let me beg of you, study yourself, study the patient, study the disease and study this "Great Problem."

DISCUSSION.

Dr. John M. Bell, St. Joseph: According to statistics recently published, there has been, if any change, an increase in the disease in New York. I think it is coming nearer the truth when they state that animals are the cause of it. It is found from absolute observation, that from 40 to 45 per cent. of animals killed have tuberculous glands, usually mesenteric glands. In the feces in practically every case the bacilli can be found. I would suggest a recognition of what is regarded as the pre-tuberculous stage. It is recognized as a condition in which there is a rise of temperature, particularly toward evening, sensitive mucous membranes and pulse increasing and weak. When we have this rise of temperature of half a degree in the afternoon and with it sensitive mucous membranes, persisting for months, tuberculosis should be looked for. If we are brave enough to condemn such a patient and put him on proper treatment we can accomplish much.

Dr. William Porter, St. Louis: I would especially refer to the statement that in New York no reduction has been made in the number of cases of tuberculosis. I cannot accept that statement without verification. I had a statement from the health commissioner of New York that in the Borough of the Bronx, the reduction in the last decade had been 73 per cent., and that with their exact methods of information they are now recording more cases than ever before. It might appear that the disease is increasing in St. Louis, but that is not the fact; it is that merely more cases are being reported. I want to take up just one point on which Dr. Brown speaks,—the value of early diagnosis. Agreeing with all the rest that he has said, it is the early discovery that warrants our using the term prevention or cure of tuberculosis. It has been very recently said that tuberculosis is one of the most curable of the communicable diseases. It can be stamped out, along with smallpox and other parasitic diseases which we have practically overcome. The period of duration is about two and one-half years and many of these cases during that time can be restored to health. If the disease is in the closed stage there may be no evidence in the sputum and not much in the chest. The bacillus colonizes in some infundibulum and there is a thickening of the walls and the air exit and entrance is prevented. The elasticity of the cell wall is interfered with. Here is found a slight roughening, local and circumscribed, with a prolonged expiratory murmur at that point. The first symptoms are this roughening and prolonged expiratory murmur.

Later is dullness, crepitation, etc., which anybody can interpret. Those of you who have a mechanical vibrator and will place this vibrator at the back of the chest and allow the vibrations to be made more or less forcible, by listening very carefully with the stethoscope, I am sure that you can detect the variations in transmissions of impulse better than by any other method. The early recognition is the important point beyond all others. It is the early case that is getting well at the sanatorium.

In conclusion, let me say that I hope you will all send official representatives from your county societies to see what is being done at Mt. Vernon.

Dr. Wolf, Kansas City: The importance of early diagnosis I would especially urge upon examiners for life insurance companies. I have had occasion to look over reports sent in from life insurance companies and I find that the death rate from tuberculosis is still about one-seventh of all the deaths reported.

Dr. Schaffler, Kansas City: The majority of cases that come to the sanatorium at Mt. Vernon are not as early as would be desirable. Often the attention of the physician is called by the parents or friends to a run down condition, the individual easily getting tired, and all those little things which the anxious parent notes, and when they come to the doctor they are told that all the patient needs is a tonic—and he gives the patient a tonic and lets him go. I would emphasize the fact that you should eliminate everything else and then, in the presence of this slight elevation of temperature and loss of weight, the presumption is that you have to deal with tuberculosis. I do not know how many cases I have had in the years gone by of tolerably well developed pulmonary tuberculosis brought to me with a diagnosis by the physician of malaria. If you have this thing in mind and believe it to be tuberculosis, if it is not proven something else, more of these cases will be cured.

Dr. C. T. Ryland, Lexington: The great difficulty I meet with is in getting the family of the patient to admit that the patient has tuberculosis. They want to conceal it and when I suggest that they have an incipient tuberculosis, I am asked to keep it quiet. If they have typhoid fever they may be a little proud of it and want all their friends to know about it. But in case of tuberculosis they want to keep it concealed. I recently had a report of great improvement made in a case of tuberculosis that I sent to Mt. Vernon, though I had not expected them to accept the case because it was so far advanced.

Dr. Brown, in closing: There are two causes back of every disease: the predisposing cause and the exciting cause. We must not ignore either.

It is no doubt true that many cases come from cattle or from careless expectoration, but if you keep yourself in good health you are not in such danger as when you are run down.

Concerning violent exercise, I would emphasize the danger of it. In these cases a diseased tissue is surrounded by an inflamed area showing

nature's efforts to encyst it. If a patient is allowed to exercise violently the increased breathing will carry this poison out through the system. You may reply that this is a good thing,—but, it should be done so gradually that it does no harm. The antitoxin, the phagocytes, etc., are our aids and we do not want to paralyze them by forcing poison into the blood.

Since August, 1907, we have had two hundred patients at the sanatorium. The majority of these were not incipient according to the definition of the National Association for the Study of Tuberculosis. Perhaps fifty of them were clearly advanced cases, but every patient, barring six or seven, has made great improvement while there. I do not mean to say that every patient has been cured, but I do say that, while there, they improve. Some were there but a few weeks and this improvement was noticed even in such cases. Every incipient case has done well.

I would emphasize the point that this disease is insidious. The slight cough, the slight temperature in the afternoon, etc., do not make much impression on the patient's mind. He will state that he does not believe he is sick. If the patient felt as sick as he really is there would be no trouble in getting him to take the "cure."

We need to do more educational work to teach people that tuberculosis is not such a dread disease when recognized early and properly treated.

In conclusion, I want to extend an invitation to each and every one of you to visit the sanatorium.

ACUTE PULMONARY EDEMA WITH REPORT OF CASES.*

By JAMES Q. CHAMBERS, M. D., Kansas City, Mo.

As to what is meant by the term pulmonary edema we are, I should think, in the main agreed, *i. e.*, an outpouring of blood serum into the lung alveoli and perialveolar tissues. This exudate, ordinarily frothy and clear, may at times be tinged pinkish or even scarlet from an admixture of red corpuscles. Edemas of this character, varying in degree, are common enough, particularly in circulatory troubles, and, for example, explain in part the persistent cough which frequently marks the early stage of a cardiac insufficiency. Again they may play a part in the terminal stages of many prolonged diseases, such as arteriosclerosis, nephritis, diabetes, the anæmias and various cachexias. In hypostatic or posture pneumonia the edematous process is an important factor.

However, it is not this class of cases which we frequently find, and generally pass over as of little moment as the mere collaterals of graver troubles, that we wish to consider. Rather would we direct your attention to that group of pulmonary edemas very sudden in onset, generalized in character, and of so terrible a nature that the victim must needs perish unless relief comes quickly. Between these two types, the first, which one commonly sees, and the second, which he seldom meets, there are all grades of intensity and rapidity. But it is chiefly those of the fulminating type that our remarks concern.

Case I. Idiopathic. Mrs. G. Age 68 or 70. Seen only once in an emergency call, December 28, 1903. About thirty minutes previously, an hour or so after a very hearty meal, was seized by one of her spells, or strokes, the conspicuous feature of which was dyspnoea and suffocation. When I reached her she was comatose, cyanotic in the extreme, skin livid, turgid veins of face and neck. Breathing short, labored and inefficient. The aspect was that of imminent death. However, a hasty examination found an excited, laboring heart with good pulse, and a chest filled everywhere with rales, small, large, crepitant, bubbling. Froth filled her mouth and at each expiration was blown forth from the parted lips in a scattering spray. An inspection of the eyes and face, together with a restless motion of all her limbs seemed to preclude a diagnosis of cerebral apoplexy, which the case much resembled. With no acquaintance or experience with such cases to guide me, but feeling that the outpouring of secretion into the lung spaces was the chief point of embarrassment, I gave, hypodermically, $\frac{1}{8}$ gr. morphine and 1-100 gr. atropine. Results were almost magical. Within five or ten minutes the expression of the face and, in fact, of the entire body was one of beginning relief. Within thirty minutes cyanosis was distinctly less, respiration less frequent, less

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labored, and consciousness had returned sufficiently for the patient to reach with her hands toward her chest and throat as the origin of her discomfort. At this juncture her family physician relieved me of connection with the case. From him, however, I learned that thirty-six hours thereafter she was up and about, that she has no distinct lesions of heart, lungs or kidneys; that this was the same sort of an attack which she had had a year or so previous which showed distinct though transient hemiplegic symptoms (suggesting the cerebral irritation often present in these attacks). For five years now she has suffered no recurrence.

Case II. Arteriosclerosis and Aortic Insufficiency. Mr. S. Age 60. Family and personal history somewhat vague. Was under observation two years, suffering from what seemed a progressive arterial degeneration, with numerous interesting and protean phases. Finally developed a well-defined aortic insufficiency first discovered shortly after one of his epileptiform convulsions. One night, getting up suddenly from his bed to void urine, after standing a moment, he fell back gasping and in great distress. Thirty minutes later, when I reached him, he was dead. His mouth was filled with froth, and by compressing the thorax bi-manually quantities of the same material were exuded.

Case III. Cardiac. Mitral Regurgitation and Pericarditis. Miss McC. Age 38. Bad family history. Father died of chronic lung trouble at 65. Mother died at 62 from spleno-myelogenous leukemia. One brother at 41 died of rapid interstitial nephritis and apoplexy. One brother and two sisters living and well. Family of marked obesity, showing in patient at age of 12 after severe scarlet fever, before which she was slender. No rheumatism. For a year increasing dyspnoea on exertion with aginoid attacks in upper substernal and throat regions. Cough somewhat constant. Chest examination revealed a few rales small, piping and sticky, an enlarged heart area, particularly in left auricular and right ventricular areas. A systolic murmur centered at apex and heard over left ventricle, in axilla and posteriorly. Slight albuminuria. A classic mitral regurgitation. Five months later, after a period of fair health and strength, she became ill with a grippy attack, consisting of a bronchitis and pericarditis. Proceeding cautiously she again, after a three months' rest, resumed her work as teacher. Nearly a year later, that is, March, 1908, she was attacked again, after ten days of over-exertion, with bronchitis fever, cough, orthopnoea and slight cyanosis. Here was evidently a strained heart, a passive congestion and superadded pulmonary infection. Counter-irritation, brisk catharsis and appropriate stimulants quickly relieved her, and during each of the three succeeding days her progress was so rapid that she insisted on returning to her school. On the contrary, however, the strictest rest was enjoined. Nevertheless, on this third day of improvement, she violated all orders by sitting up reading, by going up and down stairs, by a half dozen trips to bath room, etc. At 3:00 o'clock the next morning I

was called and found her again in wretched plight. Dyspnoëic, cyanotic, and lungs everywhere obstructed. Counter-irritation, stimulants, oxygen, venesection (1 pint) all failed. Comatose by 7 o'clock and death by 3 p. m. During the last few hours blood-tinged froth came constantly up into her mouth.

Case IV. Influenza and Broncho-pneumonia. Jno. S. Age 33. Ill one week with grip and broncho-pneumonia. On July 23, 1904, about one a. m., seized by a so-called convulsion. His own physician saw him immediately. Within an hour three others were with him in consultation. The patient was comatose and quite cyanotic. The pulse was rapid, regular and of fair tension. No definite lesion was found in the heart. No disturbance of pupils or other evidences of palsy. Respiration quite labored and the lungs everywhere were full of rales. An incised vein at the elbow let out one-half pint tarry blood that escaped with great difficulty. In spite of this and stimulants his condition grew worse from hour to hour. By three a. m. oxygen was procured, under which a slow improvement began. Forty-eight hours of oxygen, almost continuously, was necessary to restore consciousness. His condition for several days was quite encouraging. But, finally, heart, lungs, brain, kidneys, all began to show dissolution, and he died nine days after this first paroxysm, not so much, it seemed to me, the victim of a special cardiac, or kidney failure (as we are wont to say), but rather of a progressive toxemia of pulmonic origin.

The first urinalysis, after his initial paroxysm, showed considerable albumin and casts. In fact we nearly agreed in considering his seizure uremic. However, in view of the uncertain report of his seizure, such as struggling, getting black in the face and unconscious, in view of the fact that the lungs were already the main point of attack, in view of the relief which only oxygen afforded, I am inclined to think that this might have been an attack of pulmonary edema in the midst of pneumonic grip superinduced, no doubt, by the toxic nephritis present.

Case V. Cardiac. Mitral Obstruction and Regurgitation. Jno. M. C. Age 70. For many years the victim of mitral derangement which allowed only light employment. Seen in two similar attacks about a year apart. Ordinarily reasonably comfortable. A short description of one attack will suffice. Responding to a hurry call I found him lying on the floor in the front hall-way where he had been overtaken. Conscious. Lying half turned on his face, cyanotic, gasping for breath, begging piteously not to be touched or moved for fear of impeding his breath, already so difficult. Pulse extremely rapid, weak and irregular. His lungs were everywhere obstructed, moist rales, fine and coarse, were heard throughout. A hypodermic of morphine and atropine afforded him some prompt relief, which counter-irritation and purgation completed. By the third day he was eager to resume his work. This spring, a year later, he was seen in a similar attack. A few months ago while down in the country he had a seizure and perished.

In explanation of this very interesting clinical phenomenon, as represented by the foregoing cases, a number of hypotheses have been proposed—all beyond the range of demonstration:

First. The mechanical theory presupposing a loss of balance between the energy of left and right ventricles, whereby the former weakening while the right heart continues with its usual or increased force and engorges the pulmonic system. This seems logical enough, but clinically some of the most fulminating cases will show a bounding systemic pulse, with no sign of left ventricle failure.

Second. The irritative action of bacteria in the lung parenchyma, for sundry microorganisms have been found abundantly in edematous lungs. As a direct cause, unless through toxins, it seems incredible that a fulminating, generalized condition could be so induced, to subside, it may be, in twenty-four hours.

Third. A theory of toxins affecting the tone of the pulmonary tissues, perhaps as a part of a general cachexia, or working also through the innervation of these vascular structures allowing, by vaso-motor influences, a stasis and permeability of vessel walls.

At all events, these attacks do occur, and unless primarily fatal, are prone to repeat themselves, in a variety of profoundly cachectic or toxic states, *e. g.*, Bright's disease, diabetes, pernicious anæmias, influenza, typhoid, etc. The cardiac and arteriosclerotic cases are very readily understood, for here in addition to the cachexia and toxemia from imperfect metabolism of long standing, we may have a failing left ventricle to aid the process.

In the interesting case reported by Riesman, where several severe attacks occurred only during pregnancy, one might appeal to the toxins of the gravid state in explanation, or else place the phenomenon in that long list of reflex neuroses which occur in the pregnant condition.

Finally, as in the first case of our series, where an over-indulgence in food may have been the exciting cause, we may conceive of a susceptibility from degenerative vascular changes incident to old age, plus an autointoxication neurosis of alimentary origin.

However this all may be, there are several important deductions warranted by a study of these cases:

First. Acute pulmonary edema is a distinct clinical entity, possessing fairly definite symptoms.

Second. The frequency of its occurrence, its etiology, its diagnosis and treatment deserve greater consideration than the authorities allow. Osler's Practice (1902) gives a two-line reference to its possibility. Tyson (1903) makes no mention of it. Osler's Modern Medicine (1907) in 1,500 pages devoted to diseases of the chest, disposes of the subject in one or two paragraphs. Babcock, in his monograph, "Diseases of the Heart and Arterial System," describes in a graphic manner many sudden seizures in connection with cardiac troubles, but lays no stress on acute pulmonary edema, from which many of his cases must have suffered.

Third. Because of the slight importance accorded it, many cases pass unrecognized and are classified as uremic attacks, acute cardiac dilatation, angina pectoris, or cerebral apoplexy, which seizures it may closely simulate.

Fourth. The importance of a full conception and prompt recognition of this condition is made even greater by the fact that death is often imminent, and yet in a fair proportion of instances well directed therapy will tide them over. From our own experiences and from reported cases, we would depend for emergency remedies on atropine, oxygen, morphine cautiously, if there is great mental and physical distress, and generally free venesection. Of slower action, but also efficient, are counter-irritation by sinapisms and cups, free purgation, and appropriate cardiac stimulants.

Fifth. A noteworthy characteristic of these attacks is their proneness to recur in the same individual. Three of our cases showed this tendency. Another peculiarity is their frequency at night. Other observers note this. With the above cases five out of seven seizures were nocturnal.

DISCUSSION.

Dr. C. R. Woodson, St. Joseph: I would ask the essayist the age of case one?

Dr. Chambers, Kansas City: The patient was about 7 years old.

Dr. C. R. Woodson, St. Joseph: I am strongly inclined to believe that there was more of a nervous aspect to this case than of pulmonic disturbance. The mode of onset is characteristic of vascular changes in the central nervous system, and especially the termination of the case and the yielding to the remedies applied, all point to vascular changes in the central nervous system. The changes in the lung are, in my opinion, the result of vasomotor disturbance. The suddenness of the onset and the yielding to the hypodermic injection of morphine and atropin, convinces me that there was more of a cerebral than of a pulmonic disturbance. Referring to case No. 2, I have seen many apoplectic-form attacks as a result of paresis, and I have seen such cases yield to the remedy he applied; sometimes within an hour or perhaps a day the patient would be up, although perhaps he would not be quite up to the standard before the attack. Usually there is some lethargy and a sluggishness of the mind. I have watched such patients and when I have noted such symptoms of mental confusion, I have given an injection of morphine and atropin and in many instances I have prevented the attack. In case No. 3, while the family history counts for much, I think that perhaps the foundation was laid from some other source. I am inclined to believe that in an individual of that age the condition is probably due to a luetic infection. I am unable to trace a single case of paresis at that age in which there was not a luetic condition existing before. Coming from a nervous family it is possible that the powers of inhibition were greatly lessened.

Dr. I. J. Wolf, Kansas City: Acute pulmonary edema is of more frequent occurrence than we generally assume. It certainly does occur as the terminal stage in a great variety of diseases of the heart, blood vessels, etc., and only those who have made many post-mortem examinations will appreciate how often it is found. Pulmonary edema is probably one of the most frequent occurrences at the terminal stage of many of the diseases the doctor mentioned. I saw a case not long ago that might have been called hemorrhagic edema, for the fluid was very much tinged with blood.

Dr. N. P. Wood, Independence: I want to mention venesection in connection with this subject. Where there is marked cyanosis and where the heart is having a hard time in carrying on the circulation, and is being nourished by a blood that is not well oxygenated, it is sometimes of very great value. There are about $17\frac{1}{2}$ pounds of blood in the body, so that about 50,000 pounds of blood must be received and disposed of by the heart within twenty-four hours. To relieve the heart of even two pounds of this blood, taken away by venesection, means something like 5,000 pounds of blood within twenty-four hours that the heart does not have to receive and dispose of. While this is not curative, it does give temporary relief. And an opportunity to apply the desired therapeutic measures.

Dr. William Porter, St. Louis: I wish we were brave enough to use venesection in certain conditions in pneumonia, more frequently in true pneumonia where there is a diminution of the chlorides, an abnormal tendency to coagulation of the fibrin, and an overburdened right heart. I believe the classical and rational treatment is to relieve the stasis, lessen the demand on the heart and, at the same time, restore the soluble salts and diminish the total amount of toxins. The first, where these conditions exist, can be accomplished by venesection. Possibly in no other disease does the pulse, the color, the respiration, respond so quickly to the abstraction of blood in effective amounts. If the amount of blood withdrawn can be slowly substituted by the normal salt solution, we accomplish the second class of results. The Bulletin of the Johns Hopkins Hospital, some time ago, contained some most instructive deductions from the venous injection of normal salt solution in lobar pneumonia.

I cite but one case in my own practice where the two methods were combined. During a term of service as consultant at our City Hospital, I asked the resident medical assistant to notify me at once when lobar pneumonia cases came in. One day when I could not be reached, he proceeded to do as I had outlined. When I got to the ward I found an old man of sixty, an alcoholic, suffering from double lobar pneumonia, with all the clinical and physical symptoms and a low muttering delirium. The only evidence of consciousness was his resistance to attempts to give any kind of medication. The assistant had already opened a vein and the dark blood coagulated almost upon reaching the vessel. Twenty-four ounces were removed and the pulse became better, the heart sounds

more distinct, and respiration was reduced from over 38 to 30. The capillary circulation, as noticed in the lips and finger tips, improved. After a short time we began the slow, venous injection of the normal salt solution at a temperature of 100°. About the same quantity of this solution as equaled the amount of blood withdrawn was used, but there was no return of distress, either of circulation or respiration. The patient—one of a class for whom no great hopes of recovery are ever entertained—got well without any further treatment except rest and food. He steadily refused medicine and it was not urged.

My experience in this case has been repeated a number of times, but this seemed to be the most striking and positive. In cases of this kind, I believe that in venesection and the injection of the normal salt solution, we have a rational and effective method of treatment, but one only to be used in cases where the indications are plainly shown.

Dr. R. T. Sloan, Kansas City: It seems to me we have been discussing several different conditions. We have been confounding a congestive condition of the lungs with a pure edema. Of course a passive congestion due to right heart failure, accompanied by more or less edema, is one thing; the edema that is found in cases of pneumonia associated with congestion is another and finally the pure pulmonary edema that we see in Bright's disease without heart failure, is an entirely different thing. I believe it is purely a toxic condition and that the heart has nothing to do with it; venesection, therefore, is uncalled for, whereas it is of the greatest advantage in passive congestion. In the acute pulmonary edema we see in Bright's disease, there is a toxic condition and the mechanical part of it, if it exists at all, is very slight. As Dr. Woodson suggests, it probably has its effect through the nervous system. Atropin has some effect and morphine a good effect, for it is a tranquilizing effect. Venesection for pure edema of the lung is bad practice, for it is a purely toxic and not a heart condition at all. I have seen cases brought to autopsy in which the heart was in perfect condition. I think this condition is allied to that local condition called angioneurotic edema.

Dr. Chambers, in closing: It seems to me that we are all pretty nearly agreed. There are some minor points of difference, but if we could get together and talk it over we would agree thoroughly on the fundamental processes. I would have preferred if my cases had been all of the pure type, but I believe the first was the only one that was conspicuously purely and simply a pulmonary edema. The others had complications accompanying, doubtless, congestive and inflammatory troubles. Dr. Woodson lays special stress upon the nervous element in this condition and Dr. Sloan suggests it might be similar to angioneurotic edema. As a matter of fact, the first case did have pronounced cerebral symptoms at the first attack, at which time it was diagnosed as a cerebral apoplexy. I think this fulminating condition can come only through a nervous influence. In connection with case 3, I may not have read the

notes clearly enough, but it was shown that the case had a bad family history and that a brother developed paresis. This brother, as Dr. Woodson infers, did have a luetic infection twenty years ago and this paresis was the consequence of it. I am pleased with what has been said about venesection. A practitioner in Kansas City, not long ago, remarked that he wondered how the old-fashioned doctors ever got into the habit of venesection. I had not been practicing long until I saw some good effects following hemorrhage. The results of hemorrhage in typhoid have, in my experience, been very good. In a number of cases the temperature dropped and the patients were in great part relieved of toxemia and made an uninterrupted recovery. The only thing to account for the sudden and prompt relief of those patients was the hemorrhage. I recall an epidemic of mumps in a boys' school. Orchitis was frequent. In two cases hyperpyrexia ensued; the temperature was 106° plus, and each of these two boys was in a wild delirium from the fever. In both cases a copious nose bleed occurred and from this state of violent delirium with high fever the temperature immediately dropped, and they at once became rational and comfortable. It is an experience with all of us that we see eclamptic women relieved simply by the copious flow of blood that follows the birth of a child. Thus it is easy to see how our forefathers got into the habit of venesection. It is better, usually, for a patient to lose a certain percentage of blood, if highly charged with toxins, than to have the whole volume. The relief of that portion of the toxins is a relief to the patient. I think Dr. Sloan indicated that in his discussion. It is not only the relief of the toxins, but even the mechanical relief is often a life-saving measure. I am inclined to think that in nearly all these cases of pulmonary edema there is a toxemia underlying it—the toxemia in Bright's disease, in typhoid fever, in influenza, a toxemia that occurs in any heart trouble, where the metabolism has been imperfect—and that this toxemia through the vasomotors causes the outpour of serum into the alveoli.

THE ART OF REFRACTION.*

By JOHN GREEN, JR., M. D., St. Louis, Mo.

The major part of every oculist's work, variously estimated at from 50% to 75%, consists in measuring the refraction of the eye. Since the publication of Donder's classical work, "The Anomalies of Accommodation and Refraction of the Eye,"—several generations of oculists have given this subject earnest consideration and careful study. The publication, by Snellen, of a standard series of test types, the invention of the various charts for the detection and measurement of astigmatism, the objective measurement of the refraction by the ophthalmoscope, the invention of the ophthalmometer, the use of cycloplegics, and lately the development of the shadow-test, are earnest of the universal efforts to secure means of accurately measuring the refraction of the eye. One might naturally infer that, as a result of this exhaustive study, the methods of examination would be definitely fixed. That this is far from being so I am sure all will agree. Rather it appears that there are scarcely two oculists who, in all particulars, follow the same routine. Granted that there is more than one way to kill a cat, and that all roads lead to Rome, it seems rather extraordinary that there should not be some "best method" approved by the preponderance of authority.

Despite the thorough manner in which methods have been discussed, there still remains serious disagreement on some of the essential points. If we listen to the "Philadelphia School," for instance, we learn that an attempt to measure the refraction without a cycloplegic is little short of criminal, and will inevitably be followed by failure to relieve the symptoms. Our friends in New York, ridiculing the Philadelphia idea, pin their faith to the ophthalmometer and forswear the use of cycloplegics. And thus the merry war is waged to the confusion and bewilderment of the young oculist.

The writers of text-books vie with one another in giving lucid and minute descriptions of ocular diseases, pathologic ocular lesions and methods of treatment. *Per contra*, there seems to have been a conspiracy to wrap the subject of refraction in an impenetrable veil by discussing it in abstract generalities. Granted that practical refraction can only be learned by contact with patients in the refraction room, that fact should not excuse the vague, and generally unsatisfactory, treatment which the subject receives in the average text-book.

The subject being in this chaotic state, it follows that the beginner in refraction, not being able to select a method which has the weight of

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authority, is perforce compelled to work out his own salvation. He will weigh this and that suggestion and finally, by a process of selection, will adopt a routine, which, in his estimation, fulfills the requirements. In this paper I desire to present my own method, without claiming for it any conspicuous merit. The details will be gone into somewhat at length as I desire to escape the charge of abstractness and vagueness. I do not claim that the method is infallible and have no doubt that many points will be brought out in the discussion which may lead me to modify my present routine. It is only by a free interchange of views that we shall ever arrive at anything like a satisfactory and generally accepted method.

In the first place I have styled my paper the "Art of Refraction," and by that I mean the art of selecting lenses which, in any given case, will abolish the symptoms for which the patient consults us. We should never forget that the patient consults us to secure relief. He is not at all enthusiastic that we, in our pride, have learned to measure his static refraction to the $\frac{1}{8}$ th of a diopter. He wants a glass that will enable him to perform his ocular function without strain or difficulty. He does not wish to be forever reminded that he has a pair of eyes. He demands relief from pain and from headache. If we do not give him this, we have not mastered the "art of refraction," however skillful we may be in its scientific application.

As a preliminary to the study of a case of refraction, I deem it important to secure a general idea of the patient's physical condition, with especial reference to recent ailments. I believe that the oculist should approach every case primarily from the standpoint of the physician. As, in most cases, it is not feasible or practicable to subject the patient to a general physical examination, it follows that we must depend mainly on the anamnesis to furnish a clue to the origin of symptoms. The inquiry should be directed especially to eliciting a possible nasal or accessory sinus involvement; nor should we neglect to ask questions with respect to the general conditions, especially gastric and intestinal disorders, and, in a woman, pelvic and menstrual anomalies.

By thus obtaining at the outset a general survey of the patient's general condition, it is often possible to direct our inquiry at once into channels proper for the immediate elucidation of the problem at hand. In my own experience it is surprising how frequently I have come upon a train of symptoms that led me immediately to abandon ocular examination and to refer the patient to a rhinologist, a neurologist, internist or a gynecologist for examination. In a word the oculist's attitude at the conclusion of his history taking should be, either that the case is not primarily within his jurisdiction, or, by the reasonable exclusion of extra ocular factors, that the origin of the symptoms depends on uncorrected ametropia or muscular imbalance.

A discussion with respect to the previous ocular history is then entered into and I make it a point to secure a consecutive history of any

and all eye-symptoms from the earliest age of the patient to the present. If headache exists, its kind, periodicity, location, etc., is discussed. The ability to use the eyes under various conditions is entered into, and the occurrence of local or reflex manifestations is dwelt upon. By thus entering systematically into the subject, facts are frequently elicited which may have a distinct bearing on the present management of the case. The next step consists in taking the vision of the patient for distance and near, with each eye separately and without a correcting glass (I hope I may be pardoned for alluding to many perfectly obvious points, but, as I stated, I desire to take a personal view and to escape the charge of vagueness). Immediately upon the conclusion of this test I make a careful examination with the ophthalmometer. In the presence of astigmatism I determine with all accuracy the axis and amount of the corneal astigmatism to the end that I may have at the very outset a guide to the general "roughing out" of the case. Let us suppose that V without lens is 6-8, and that the ophthalmometer indicates an astigmatism of 2 D. with the axis at 90° . It is fair to assume that the refraction is a hyperopic astigmatism. I immediately place a plus 3 Sph. on both eyes and take the vision first with the two eyes then with each separately. The vision will probably be found to be 6-10 or 6-12. Wearing plus 3 Sph. the patient is then allowed to wait for 10-15 minutes in the waiting room to secure, if possible, some relaxation of his accommodation. On his return to the refraction room, his attention is at once directed to the astigmatic charts—and I greatly prefer the charts of Verhoeff—and he is asked to select the sharpest and blackest line. If, as is probable, he selects the 90° , I substitute the second chart and begin by adding minus cyls. at 180° beginning with $-.25$ and substituting successively stronger $-$ cyls. in increasing strengths until the two principal lines are equalized. Let us suppose that on the addition of -1.5 cyl., axis 180 , the lines are rendered uniform. Vision has now risen to 6-8. A weak $-$ sph. ($.25$ D.) is added and the patient's vision has risen to 6-6 plus. The patient is now asked to confine his attention to the finer lines comprising the quadrants, and he is asked to compare the upper and lower sections (of horizontal lines) with the lateral sections (of vertical lines). It will frequently be found that, although the principle or wide lines appear perfectly uniform, there is something in favor of one or the other set of sections. Usually the addition of a $-.12$ or $+.12$ cyl. axis 180° will suffice to render the entire diagram perfectly uniform. Vision will now be 6-6 or better. A slight shift in the axis of the cyl. will often appreciably sharpen the letters.

I have dwelt thus minutely on the well-known "fogging" method because I believe that, patiently applied, it will, in the great majority of cases, yield a measurement which, while it may differ somewhat from the static refraction, is of great value in indicating to the examiner the glass which the patient will accept with comfort. Those who have not adopted this, or a similar method, will be surprised to find how fre-

quently the result approximates the static refraction. Of course, if we are dealing with an accommodative spasm, the difference between the two results will be considerable.

After the fellow eye has been similarly tested, the patient is placed in a comfortable position, in a good light. He is given a recent issue of a well-printed magazine (preferably one with several sizes of type) and is instructed to *read continuously without lifting the eyes from the paper*. This test is prolonged for from $\frac{1}{2}$ to $1\frac{1}{2}$ hours. From time to time the examiner approaches the patient and inquires how all is going; if the answer is satisfactory, the patient is directed to continue to read.

By this test several important points are determined: In the first place, is the correction comfortable and pleasant or otherwise? Second, does it at first seem uncomfortable, and as the reading is prolonged become more acceptable? Third, are symptoms, such as blurring or wavering of the letters, drawing sensations, pain in the eyes and head, reflex nausea, etc., less marked or abolished or *vice versa*? In a word, does it appear likely that this manifest correction will ameliorate or abolish the symptoms, or is the patient undecided as to the effect of the glasses, or, on the contrary, do they seem to accentuate the symptoms?

This preliminary examination, occupying, as it does, the better part of two hours, leaves the patient in a state of ocular and mental fatigue. At this point the following prescription is given: Homatropin hydrobromate, gr. 1; cocain hydrochlor, gr. $\frac{1}{4}$; aquæ dest, ʒss., with directions to instill one drop in each eye at bed time and on arising the following morning. The patient is directed to bring the drops to the office, where the office assistant begins the instillation at regular intervals of 10 minutes until five drops have been instilled. Thirty-five minutes after the last drop has been used the examination is begun by taking the distant vision of the eyes now thoroughly under the influence of the cycloplegic.

Immediately thereafter the patient is placed in the dark room and the examination of the refraction with the skiascope made. It is unnecessary to enter into the details of this method so familiar to all of you. My preference is for the method with the plain mirror, with the source of illumination above and a little behind the patient's head.

To facilitate the determination of the distance between the examiner and the patient, a tape one meter long is attached to the trial frame. After determining the point of reversal for the meridian of least refraction, cylinders of varying strengths at the appropriate axis are added until reversal is obtained to all meridians. Great pains are taken to determine the exact axis as well as the amount of astigmatism as it has been my experience that the more careful one is in applying this test, the more nearly will his result coincide with the trial-case measurement.

The lens combination, as determined by skiascopy, is then placed before the eyes and the vision taken. The next step consists in varying the

combination of lenses to determine whether some combination, other than the one indicated by the skiascope, may not be preferred. To this end I have adopted the routine suggested by Duane and styled by him the "Round of the Trial Case." The correction being in general a spherical glass A. and a cylinder B. I add, one after another.

1. A convex sphere, say $+ .5$.
2. A convex cylinder with its axis in the axis of B
3. The same cylinder with its axis at right angles to B } $+ .5$ cyl.
4. A concave cylinder with its axis in the axis of B
5. The same cylinder with its axis at right angles to B } $- .5$ cyl.
6. A concave sphere. — $.5$ sph.

These additions form, as pointed out by Duane, a series of combinations which represent practically all changes that can be made in the sphero-cylinder combination A. B. Then if A. and B. are both convex, the additions made will be:

1. Add to A. and leave B. alone.
2. Add to B. and leave A. alone.
3. Diminish B. and add to A.
4. Diminish B. and leave A. alone.
5. Increase B. and diminish A.
6. Diminish A. and leave B. alone.

As soon as, in making the round, it appears that the added glass has improved vision, the resultant combination is substituted, and the "Round of the Trial Case" repeated, this time with $.25$ D. spheres and cylinders.

I very shortly reach the point where I get a combination that is not improved by any addition ($+$ or $-$ sphere or cylinder). Slight variations are then made in the axis of the cylinder, which, if accepted as an improvement, is adopted. A disc with a 4 mm. circular opening is then slipped in front of the combination in order to exclude extra pupillary rays. If the combination is correct, this will have the effect of materially sharpening the letters.

The examination under a cycloplegic concluded, the patient is directed to return in a few days for the post-cycloplegic test. This is conducted in two ways: First, the method with the aid of astigmatic charts (described as the preliminary test) is used and the result reached in a precisely similar manner; second, the combination obtained under cycloplegia is placed before the eyes and by conducting a "Round of the Trial Case," it is determined to what extent the cycloplegic finding may have to be modified. Needless to say, the results of these two methods generally agree very closely.

By adopting the above described routine, the examiner is in possession of the following facts:

1. A knowledge of the dynamic refraction carefully worked out.
2. A knowledge of the actual behavior of the eyes for far and near under the influence of this "dynamic" correction.
3. A knowledge of the static refraction and of the difference between the dynamic and the static.
4. A knowledge of the manner in which the eyes respond to tests after the cycloplegic has worn off.

(I may say parenthetically that as this paper is confined to a discussion of the "art of refraction," no allusion will be made to abnormal functioning of the extrinsic ocular muscles, or muscles of accommodation. Such abnormalities will often demand modification of the refractive findings.)

The examiner, in possession of these facts, must then determine precisely the strength and combination of lenses that in all likelihood will give the patient *immediate relief*. How far shall the prescription deviate from the manifest correction? Shall a balance be struck between the dynamic and the static result? If the axis of the cylinder differ in the two measurements, which shall be accepted? Shall the full static result be accepted? These are the principal problems that confront us and demand for their solution the nicest tact, judgment and discrimination, which can only be acquired by prolonged contact with patients in the refraction room.

Let us not forget that the patient comes to us for relief, immediate relief. Do oculists who order a pair of glasses on the basis of the static result alone, and tell the patient that he will get used to them in a month or so, realize that they are offering a stone where the cry is for bread? Why is it necessary to torture a patient with static glasses which our preliminary and post-cycloplegic tests indicate will not be tolerated? Is it not more rational to prescribe the glass which will give the patient immediate comfort and satisfaction? As we have a knowledge of his static refraction, we can foretell, with reasonable certainty, that, as time passes, more and more of his latent error will become manifest. By dealing frankly with the patient, impressing upon him our desire to give him immediate relief, and pointing out that the first correction must inevitably be replaced by a stronger one after the lapse of a certain time, we invite his coöperation to the end that his case may be carried to a successful issue.

One word with reference to the adjustment and mounting of the lenses. I have gained the impression that, as a general rule, oculists are content with indicating the formula of the lenses to the optician, and leave the details of the mounting to his judgment or the fancy of the patient. This practice might be defensible if the judgment of the optician were invariably sound, or if the fancy of the patient always demanded the mounting best adapted to his particular needs. That this

is very seldom the case, I am sure all of you will agree. The oculist is the one to decide what mounting will be most appropriate for each individual case. If his views and the patient's do not coincide (as is frequently the case), he should carefully give the reasons for his position and use every effort to win the patient to his way of thinking. I have so frequently seen the work of competent oculists nullified by improper mounting of the lenses, that I feel that we should, if only for our own protection, insist on the carrying out of all the details in accordance with our own ideas.

625 Metropolitan Bldg.

DISCUSSION.

Dr. A. E. Derwent, Clinton, believed the testing of muscle action is a very important part of the test. On first examining for esophoria and exophoria in the young adult with high degrees of hypermetropia, it is not necessary to use two different pairs of glasses, one for distance and one for reading. A cycloplegia is usually unnecessary, except in the young. He uses a cycloplegia and skiascopy much less than formerly.

Dr. J. D. Pifer, Joplin, stated that he considered the method suggested by Dr. Green too long, tedious and complicated. He uses a cycloplegic, generally atropia if the patient can possibly spare the time. After finding what dynamic and static refraction of the eye, all guess work and uncertainty are eliminated. Where the patient's occupation requires close application of the eyes sufficient to produce any disturbance, such as local or remote irritation, he puts on glasses for constant wear, and generally gives full correction, putting the glasses on whilst the eyes are coming out from under the cycloplegic, thereby permitting them to accept more correction than they could later after the atropine had worn off.

Dr. John Green, Jr., in closing, said that his paper dealt only with the technic of refraction and not with muscle conditions. In regard to cycloplegia, he had found homatropine, in a 3% solution, a reliable cycloplegic, if used as stated in the paper. Exceptional cases require atropine or hyoscine. Full correction is usually rejected by patients. Under-correction, based on pre- and post-cycloplegic measurements, is more satisfactory, though the patient should be warned that a subsequent change is inevitable.

Journal

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M. B. Clopton, M. D.

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EDITORIAL

THE ST. LOUIS MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

The American Medical Association will hold its sixty-first annual session in St. Louis in June, 1910, when it will devolve upon the profession of that city and of the entire State to entertain the visitors in a manner befitting the importance of the event so as to strengthen the traditions that have made our metropolis famous for its hospitality. Probably no city in the Union can rival St. Louis to-day in facilities for providing comfortable and convenient meeting places for the various sections, and for the entertainment of the Association; but we must, nevertheless, make an early beginning to gather funds and prepare plans for the proper reception and care of the large number of visitors who will undoubtedly attend the meeting. We appeal therefore to members throughout the State to respond liberally and promptly to the requests for contributions which the Committee of Arrangements will soon send out, and be prepared to support to the best of their ability every effort put forth for the success of the meeting and increase the prestige of the profession of Missouri.

The 1910 meeting of the Association will be the fourth that St. Louis has entertained, previous sessions having been held in 1854, 1873 and 1886, so that an interval of twenty-four years will have elapsed since the Association last met in Missouri. It is interesting, in this connection,

to remind the members that Missouri has had the honor of furnishing three presidents of the Association, Dr. Charles Pope in 1854, Dr. John T. Hodgen in 1881, and Dr. E. H. Gregory in 1887.

The coming meeting of the Association will afford the profession of Missouri an opportunity to become intimately acquainted with the workings of this great and influential organization, an organization which has grown, in a few short years, from a discordant band of unorganized and purposeless individuals to a mighty army of trained warriors in the battle against dirt, disease and death. Their achievements, and promises for future triumphs, in alleviating the sufferings of mankind and lengthening the span of life, have revealed to the people the true character of the doctor—the conservator and protector of the life of the nation. If this characterization of the rank which the doctor fills seems too high, let us quote the words of a layman whose writings have commanded the thoughtful attention of the greatest minds of our time: "All sane human beings agree," says Rudyard Kipling "that this long fight for time which we call life is one of the most important things in the world, if not the most important, and the doctors, who plan and conduct and who reënforce this fight, are among the most important people in the world." This estimate of the high position which the doctor occupies in the varied and diversified fields in which man labors, and strives, for the solution of the mystery of life, may be disputed by some small minds, but their opinions do not concern us at this moment, for our remarks are intended as an inspiration to every member of the State Association, "Lest we forget" that this supremacy can be maintained only through combined effort, constancy to the principles of our creed, and through unity of purpose. We appeal therefore to every member of the State Association to join the American Medical Association at once, and prepare to attend the annual gathering in St. Louis next June. Let us have an outpouring of Missouri doctors at that meeting and set a standard for attendance of home doctors at all meetings in the future.

COLLECTION OF VITAL STATISTICS.

The law providing for the bureau of vital and mortuary statistics of Missouri became effective on August 15th, and the State Board of Health has announced that arrangements for carrying out the provisions of the law have been inaugurated. Offices have been opened in the old supreme court building at Jefferson City and official headquarters of the State Board of Health established at that place. The state registrar, who is also the secretary of the State Board of Health, will be

located permanently at Jefferson City, where he will receive and tabulate all reports from local registrars throughout the State. The State will be districted and a registrar appointed for each district. All cities and incorporated towns will constitute a primary district, and the territory of each county outside of such cities and incorporated towns will be defined and boundaries designated for a sufficient number of rural registration districts to insure complete and convenient registrations of births and deaths.

All physicians, midwives and undertakers are required, under this act, to register their names, addresses and occupation with the local registrar of the district in which they reside, but no charge can be exacted for doing so, as this registration is required for the purpose of placing in the office of the registrar a complete list of persons who, under the provisions of the vital statistics law, are required to make reports to the local registrar.

As soon as the workings of the law become effective every birth and death must be reported to the local registrar on blanks printed for the purpose and any physician or midwife who fails to comply with the law is subject to a fine of from \$5.00 to \$50.00 for each offense.

At the meeting of the State Board of Health in St. Louis, last month, Dr. J. A. B. Adcock resigned as secretary and Dr. Frank B. Hiller was elected to fill the office of secretary and state registrar. Dr. Adcock's long and faithful service as secretary of the State Board of Health was fittingly acknowledged by the adoption of resolutions extending to him a vote of thanks and expressing the high appreciation by the Board of his efficient services, as well as their regrets that he was prevented on account of his professional affiliations from removing his residence permanently to Jefferson City. Dr. Hiller, the new secretary, is thoroughly competent to execute the duties of the office, is highly esteemed, not only as a successful physician, but a man of estimable qualifications and experience in public health matters. He has been a member of the State Association for many years, has served as councilor and on important committees, and has always been identified with every forward movement in medical matters.

THE NEVADA STATE HOSPITAL EMBROGLIO.

Following upon the heel of the difficulties in the asylum at St. Joseph, the newspapers inform the public that Dr. G. C. Wilson, the recently appointed superintendent of the Nevada Asylum, has resigned. If the reasons for the resignation given in the public prints are true, the retiring superintendent will have the respect and the commendation

of all right-thinking citizens and surely of the medical profession. It is reported that the recently appointed Board of Managers, to which Dr. Wilson owes his appointment, insisted upon curtailing his authority over the employees of the institution.

To say nothing of the law, which makes the superintendent responsible to the Board of Managers for all the employees, experience and common sense suggest that there can be but one head to a successfully managed institution. If the superintendent is to be harassed by boards, if he is to be in dread of having his orders not carried out, or so interfered with as to make them nugatory, no self-respecting and competent superintendent will continue in office under such a condition of affairs.

If a board of managers does not have the utmost confidence in the ability of a superintendent to conduct the institution for the best interests of the inmates and of the State, the superintendent should be removed and the proper person put in his place.

The time has passed when the people of this State will sit idly by and see the unfortunates who are thrown upon the State, made the price of political juggling; and above all will the organized medical profession of this State see to it that occurrences such as that at Nevada will be brought properly home to those in authority as well as to the people. Dr. Wilson will have the active support of the medical profession of this State in the stand which he has taken and we would suggest to the Governor that instead of having the resignation of Dr. Wilson accepted, he remove the Board of Managers and appoint one that will take a common sense and business-like view of the responsible duties of a superintendent of a State hospital.

PERSONAL AND NEWS NOTES

Dr. V. Q. Bonham has moved from New Franklin, where he has been practicing for many years, and has located in Fayette. Dr. Doke Gentle, formerly of the Female Hospital, in St. Louis, has succeeded Dr. Bonham at New Franklin.

DRUGLESS healers and the followers of every other cult and ism who practice medicine in any of its branches in Missouri, must obtain a license from the State Board of Health, according to a ruling which emanates from the office of the attorney-general of the State.

THE THIRTY-FIFTH ANNUAL meeting of the Mississippi Valley Medical Association will be held in St. Louis, October 12, 13 and 14, at the Southern Hotel. The arrangements for the entertainment of the Association, under the direction of Dr. Louis H. Behrens, have been almost completed and give promise of every possible attention to make the sojourn of the members in St. Louis a memorable occasion. The program of papers to be read is in charge of Dr. H. E. Tuley, 111 W. Kentucky street, Louisville. The principal addresses will be delivered by Dr. S. G. Bonney, oration on medicine, and Dr. John B. Deaver, oration on surgery.

PREPARATIONS are already well under way for the next annual meeting of the Medical Association of the Southwest at San Antonio, November 9-11, 1909. Many prominent members of the profession are expected to be present, a number of whom will deliver addresses and read papers. The secretary will do all that lies in his power to secure reduced railroad rates, and if those who expect to attend will drop a card to F. H. Clark, secretary-treasurer, at El Reno, Okla., stating that they expect to attend, it will assist him in securing reduced railroad rates. The headquarters will be at St. Anthony Hotel, which is one of the finest hotels in the Southwest, with ample accommodations for all who may attend. A considerable interest has been manifested in an excursion to the City of Mexico and the International Railroad has promised a rate of \$26.00 for the round trip with many opportunities for side trips. All who are interested in this trip will confer a favor by writing the secretary so he may know about how many will go. The local committees are all hard at work and every one who attends will have the very best kind of a time. This, with the fact that San Antonio is one of the historic cities of this country, and the assurance of a splendid professional program, should bring the largest attendance that has ever gathered at these meetings.

COUNTY SOCIETY NOTES

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY.

The Cape Girardeau County Medical Society held its regular monthly meeting at Jackson, May 10th. The following members were present: Drs. Cunningham, Hays, Hope, Howard, Rosenthal, Statler, Vineyard and Wilson.

The McCormack committee reported that owing to conflict with the normal school exercises, they would try and change the time of holding the meeting.

The program for the evening consisted of a paper, entitled "Acute Inflammations of the Mucous Membranes of Upper Air Passages," by Dr. W. K. Statler, and a paper on the treatment of these conditions, by Dr. Trisler. Dr. Statler's paper was a very excellent one, the subject being presented in a most interesting and comprehensive manner. The other paper scheduled on the evening's program was not presented, owing to the absence of Dr. Trisler.

Drs. Rosenthal and Cunningham reported a case of edema of the glottis. The report showed how greatly the profession is handicapped by neglect of the family to seek early medical assistance, so that proper treatment may be instituted at the right time, and that if called too late to render efficient assistance, the doctor usually is blamed when the result is unfavorable.—E. H. G. WILSON, M. D., Secretary.

CLINTON COUNTY MEDICAL SOCIETY.

The Clinton County Medical Society met in Plattsburg, April 20th, and held its quarterly meeting. There were present the following: Drs. Franklin, Peters and Gilliland, of Cameron; Dr. W. K. Porter, of Turney; Drs. Robinson and McConkey, of Lathrop; Dr. Sturgis, from Perrin; Drs. Steckman, Rea, Gant, Fulton and Chastain, from Plattsburg; visitors: Drs. Norberg and Frankenburger, of Kansas City.

Papers were read by Dr. Peters, Dr. Robertson, Dr. Sturgis, Dr. Norberg and Dr. Frankenburger.

HOWARD COUNTY MEDICAL SOCIETY.

The Howard County Medical Society met on June 4th, 1909. The following members were present: Drs. Wright, Bonham, Fleet, Richards, Lewis, Moore and Watts.

Dr. Watts read a paper entitled, "The New Treatment of Typhoid Fever," which was discussed by Drs. Wright, Moore and others. Drs. Richards and Fleet gave their experience with acetozone and sulphocarbolate of zinc.

Dr. Fleet presented a case of wound of the left ring finger, of O. F., aged 17 years, caused by a thorn, and further injured by a window falling upon it. The patient had some tetanic symptoms. Dr. Fleet used peroxide and dressed the wound with bichloride gauze; after that he

used echinacea, 20 gtt. every 6 hours, flushing the wound with it. He reported that the patient was doing well.

The secretary read a letter from the president of the Pure Food Magazine, Dr. Pierce. It was the unanimous opinion of the society that no artificial preservatives should be used, and the use of benzoate of soda was condemned in strong terms, the society endorsing the views of Dr. W. W. Keen.

The society adjourned to meet again, after hearing from the attorney-general and the secretary of the State Board of Health, as to the law regarding chiropractics.

MEETING OF JUNE 11, 1909.

The society convened on June 11th to consider the unfinished business of the meeting of June 4th. The following members were present: Drs. Bonham, Fleet, Lewis, Richards, Wright and Watts.

The secretary read the letters received from the attorney-general and the secretary of the State Board of Health.

Upon motion the following resolution was adopted and a copy ordered to be furnished to the Hon. Paul Prosser, prosecuting attorney of Howard County:

Resolved: That the prosecuting attorney be requested to investigate the question as to whether parties known as chiropractics have complied with the laws regulating the practice of medicine and surgery in healing diseases, physical and mental, in the county of Howard, State of Missouri, as we the members of the Howard County Medical Society have done.

The secretary was requested to present the resolution to the Hon. Paul Prosser, prosecuting attorney, Howard County Medical Society.

MEETING OF AUGUST 6TH.

The society convened at 2 p. m. in the office of the secretary at Fayette. Present: Drs. Gentle, Richards, N. E. Smith, Bonham, Fleet, C. O. Lewis, Burgwin and C. W. Watts.

Dr. Duke Gentle, formerly of St. Louis, now of New Franklin, Mo., was received as a member of this society by transfer from the St. Louis Medical Society.

The secretary reported the action of the circuit court as to the trial of the so-called chiropractics. The jury stood eight for conviction, four for acquittal. They will be tried again at the September term of court. These persons have been engaged in practice here for three months, regardless of the statutes of the State and the regulations of the State Board of Health.—C. W. WATTS, M. D., Secretary.

KNOX COUNTY MEDICAL SOCIETY.

The Knox County Medical Society met in special session at the call of the president, at Edina, on August 25th. Twenty-five physicians of the county were in attendance and a general discussion upon topics of scientific interest and subjects pertaining to the general welfare of the community made the occasion a profitable and encouraging renewal of society work in Knox County.

The meeting was held in the offices of Drs. L. S. and Geo. Brown, who served refreshments to the members during the intermission between sessions.

The society will meet again on the first Monday in December and at that time it is expected that all physicians in the county will be present.

A program has been arranged for the December meeting, which includes a discussion of the physical outlines of the heart, by Dr. H. Jurgens, and of the lungs by Dr. Luman. At this meeting also a number of cases will be presented for examination and diagnosis. A special invitation is extended to all physicians in Knox and adjoining counties to be present at the December meeting.—A. R. WILSEY, M. D., Secretary.

MACON COUNTY MEDICAL SOCIETY.

The Macon County Medical Society convened in the office of the secretary, with a good proportion of members present.

Dr. Hooper presented an interesting case of congenital deficiency of the heart.

Dr. Cambry presented a case of myocarditis secondary to cholecystitis, the infection being carried to the heart by the blood.

A paper was then read on painless angina and its differentiations from true angina and pseudo-angina.

As had been arranged, the doctors brought their wives and during the session of the society they assembled at the home of the secretary and spent three pleasant and profitable hours socially and automobile riding. After adjournment, the physicians joined their wives at the lawn party and a sumptuous luncheon was partaken of, picnic fashion. The ladies were so delighted with the meeting, which afforded the doctors' wives an opportunity of getting together and getting acquainted, that they organized the Ladies' Auxillary to the Macon County Medical Society, to meet every three months. We commend this plan to other counties. The doctors' wives have small opportunity for getting acquainted, and this not only affords such opportunity, but it creates good fellowship among the doctors.

The society will continue the study of heart diseases during the next months. This is the most practical plan this society ever adopted. We are spending four months on heart diseases.—A. B. MILLER, M. D., Secretary.

MISSISSIPPI COUNTY MEDICAL SOCIETY.

The Mississippi County Medical Society met in regular session at the offices of Drs. S. P. and A. Martin. The following members were present: Dr. S. P. Martin, Dr. A. Martin, Dr. Boggan, of East "Prairie; Drs. Love and Wallace, of Bertrand, and Drs. Lynch, Chapman and Howle, of Charleston.

Dr. Boggan asked further time for preparing his paper on "Reminiscences of a Doctor."

Dr. Howle read a report of two cases of midwifery. This report was discussed by Drs. Wallace and Martin.

Dr. Lynch read some notes on "The Medical Treatment of Appendicitis," advocating complete rest in bed, the application of heat over the region of pain, and the use of enemas of olive oil and soap-suds. He believed that it was to the interests of patient and physician that the habit of sending cases away be discontinued and the patient be treated at home.

Discussing the paper, Dr. S. P. Martin said he did not think that

cases of appendicitis should be operated upon in the acute stage and that operations should be performed between attacks. Dr. Wallace said that the surgery of abscesses of the appendix did not differ from surgical procedures upon abscesses in other regions and that an opening should be made and the pus evacuated. Dr. Chapman said that one of the causes of unsuccessful after-treatment in the home was due to the fact that as a rule the doctors of a community were unaccustomed to work together concertedly, whereas in the hospital, nurses and assistants are trained in the routine practice by the attending physicians and therefore there is conflict of method.

Dr. S. P. Martin promised to prepare a paper for the next meeting on the subject of summer complaint.

MEETING OF JUNE 7TH.

The society met at Bertrand, with the following members present: Drs. S. P. and Albert Martin, of East Prairie; Dr. Finley, of Anniston; Drs. Love and Wallace, of Bertrand; Drs. Lynch and Howle, of Charleston.

The application for membership of Dr. R. P. Aldridge, of Anniston, was referred to the proper committee for action.

The resignation of Dr. Ogilvie was accepted and resolution of regrets at his loss by removal from the county, was adopted.

Dr. Wallace reported a case of malarial hematuria, complicated by an extreme enlargement of the prostate and spasmodic stricture, the latter rendering it almost impossible to enter a catheter. The case terminated fatally. The report was discussed by Drs. S. P. Martin, Howle and Lynch.

Dr. S. P. Martin read a paper on "Summer Complaint." The paper was well prepared and presented a comprehensive summary of the most recent and up-to-date views of leading authors. The paper was well received and freely discussed by all the members with little variation of opinion concerning the treatment. Dr. Wallace objected to forcible attempts to pass enemias through the ileo-cecal valve; Dr. Martin, too, doubted the expediency of such attempts.

Dr. Lynch reported a case showing some of the unhappy experiences a sick baby too often undergoes. The case was that of a baby which he found in a closed room, the child being covered with blankets, while the outside atmospheric temperature was 90° in the shade. He said that some kindly disposed old lady had suggested this sort of treatment as a remedy for "bold hives."

The session was most interesting and profitable, as well as enjoyable to all the members.

The subject for discussion at the next meeting will be a symposium on malaria, the principal paper to be prepared by Dr. G. H. Wallace, of Bertrand.

MEETING OF JULY 5TH.

The society met in the office of the president at Charleston, with the following members present: Dr. Albert Martin, of East Prairie; Drs. Chapman, Lynch, Reid and Howle, of Charleston.

The membership of Dr. R. P. Aldridge was favorably reported by the committee and he was duly elected a member.

The Symposium on Malaria was abandoned on account of the unavoidable absence of Dr. Wallace, who had agreed to prepare the prin-

cial paper. This subject will be taken up at the August meeting, at which time Dr. Reid will also read a paper upon the subject.

Dr. Chapman reported a case of dysentery, in which the usual treatment had failed to check the progress of the disease and further study had suggested the possibility of a chronic lesion of the liver with probable gall stones. An operation was suggested but refused by the patient. A general discussion of the subject of dysentery followed the reading of the paper.

Dr. Reid read a paper on the subject of "Bismuth Paste Treatment of Fistula," and reported a case that recovered under this treatment.

Dr. A. Martin reported a case which had been pronounced by a number of physicians to be an abscess of the liver, but when operated upon proved to be a cancer of the stomach, involving the left lobe of the liver.

The next meeting will be held at Charleston the first Monday in August.—W. P. HOWLE, M. D., Secretary.

RALLS COUNTY MEDICAL SOCIETY.

The Ralls County Medical Society met in regular session, July 8, 1909, at Spalding Springs. Twenty-one physicians were present. Seven papers were read and discussed.

The meeting was a very interesting and instructive one.—T. J. DOWNING, M. D., Reporter.

RANDOLPH COUNTY MEDICAL SOCIETY.

The August meeting of the Randolph County Medical Society, which was purely clinical, was held at Moberly, August 26th, 1909. This meeting was even a greater success than the previous meeting, which we considered the best in our history, in that there was a better attendance and a more abundant supply of clinical material.

Following is the program of the meeting:

"Epileptoid Convulsions in a Case of Senile Arteriosclerosis, by Dr. F. L. McCormick, of Danksville. Discussion by Drs. Mabee and Lyter. "Gummatous Osteoperiostitis," by Dr. C. K. Dutton, of Moberly. Discussion by Drs. Barnhart and Dickerson. "A Tumorous Mass of the Intrascapular Region," by Dr. R. A. Woods, of Clark. Discussion by Drs. Ash, Dutton and Barnhart. "Mitral Insufficiency," by Dr. O. O. Ash, of Moberly. Discussion by Drs. Nichols and Barnhart. "Trifacial Neuralgia—Operated," by Dr. Thos. Irwin, of Moberly. Discussion by Dr. Nichols. The feature of this case was the absence of any paralysis following the operation, which was done two years ago. "Tongue-tie, Adenoids, Enlarged Turbinates and Chronically Enlarged Tonsils Existing in the Same Individual," by Dr. J. R. Mabee, of Huntsville. Discussed by Dr. Dutton. "Fractures of Humerus with Dislocation of the Head of the Radius," by Dr. D. M. Nichols, of Higbee. Discussion by Drs. Mangus and Mabee.

We will meet on September 30th, 1909, at Higbee, where we are promised a feast of clinical material and, following the clinic, a table groaning under the weight of a well-prepared supper at which our Higbee brethren will be the hosts. The Randolph Society is endeavoring

to convert itself into an institution of higher medical education.—J. C. LYTER, M. D., Secretary.

RAY COUNTY MEDICAL SOCIETY.

The Ray County Medical Society held its regular meeting at Richmond, August 15th.

After partaking of an excellent dinner at the Hotel Richmond, the regular meeting was called to order and the society was highly entertained by a very able and practical address on "Chronic Ulceration and Inflammation of the Duodenum," by Dr. J. M. Allen, of Liberty. Dr. Allen drew his conclusions on various points from a practical experience of fifty-five years as a physician, and cited numerous cases from his clinics in college work. He urged the medical profession to discard and forget the terms "stomach trouble" and "catarrh of the stomach." He said they were not definite and did not mean anything. Dr. Allen went into the etiology, pathology, symptomatology and treatment of this disease, talking nearly one and one-half hours in such a clear and concise manner that the time seemed all too short. Ray County always has a hearty welcome for Dr. Allen—the "Grand Old Man" of our medical profession.

Next on the program was a paper on "Spina Bifida," by Dr. J. M. Frankenburg, of Kansas City. Dr. Frankenburg said he had seen three cases of this unusual disease in the last three months, and presented three very fine and interesting photographs of a case he operated upon lately. The essayist handled his subject in a masterly manner, showing that he had given considerable time to its preparation. Dr. Frankenburg was requested to send his manuscript and illustrations to the secretary for publication in the JOURNAL.

A motion was made and carried that a vote of thanks be extended to Drs. Allen and Frankenburg for their presence, to which Dr. Frankenburg responded in his usual graceful and charming manner.

The members present were: Drs. J. W. Smith, C. B. Shotwell, L. D. Greene, R. L. Hamilton, Robert Sevier, E. T. McGaugh, J. E. Ball and E. F. Hidgon, of Richmond; Drs. T. B. Cook and E. W. Rentfro, of Rayville; Dr. M. E. Crawford, of Camden, and Drs. J. H. Stapp and Hermon S. Major, of Hardin. Visiting physicians were: Dr. J. M. Frankenburg, Kansas City; Drs. C. C. Crowley and Wm. Byam, of Richmond; Dr. J. M. Allen, of Liberty.

The next meeting will be held in Richmond, October 20th.—HERMON S. MAJOR, M. D., Secretary.

SCHUYLER COUNTY MEDICAL SOCIETY.

The Schuyler County Medical Society met in Lancaster, April 27th, Vice-president Dr. A. J. Drake presiding. Those present were: Drs. J. H. Keller, A. J. Drake, W. F. Mitchell and E. L. Mitchell.

Dr. Drake read a paper on "Constipation and Treatment," which was thoroughly discussed by all present.

Drs. Bridges, Keller and W. F. Mitchell were placed on the program for papers to be read at the next meeting, July 13, 1909.—H. E. GERWIG, M. D., Secretary.

SCOTT COUNTY MEDICAL SOCIETY.

The Scott County Medical Society met at Benton, July 5th, in the court-house, with the president, Dr. G. S. Cannon, in the chair. There were present: Drs. Haw, Wade, Wescoat, Atkisson, Cannon, Lucas, McCabe, Sparks, Frazer and Hutton.

Dr. Wescoat read a paper on "Cirrhosis of the Liver." The doctor demonstrated microscopically a normal liver, a cirrhotic liver and a pigmented liver.

The other papers read were: "The Physician as Hygiene Officer," by Dr. McCabe; "Appendicitis," by Dr. Cannon; "Colitis in the Infant," by Dr. T. F. Frazer. These papers were all good and were discussed freely by all present.

Dr. R. K. Ogilvie, of Blodgett, was elected a member of the society upon presentation of certificate from the Mississippi County Medical Society.—W. S. HURTON, M. D., Secretary.

SHELBY COUNTY MEDICAL SOCIETY.

The Shelby County Medical Society met at Clarence, May 15th. The chairman being absent, Dr. N. M. Read presided.

Dr. Bayliss sent a patient, a man 48 years old, with a growth in the parotid region, for examination. There was a diversity of opinion as to the character of the tumor, but the majority advised removal of the growth.

Dr. Wood read a paper on "Puerperal Eclampsia," with report of a case, which was discussed by all present.

The doctors of Clarence had prepared an excellent dinner for the visiting members, but owing to the inclement weather the attendance was small.

Dr. E. B. Stark, of Hager's Grove, was elected to membership.

Adjourned to meet in Clarence at the call of the president.—A. M. WOOD, M. D., Reporter.

VERNON COUNTY MEDICAL SOCIETY.

The Vernon County Medical Society met in regular session at Nevada, June 3d, 1909.

Dr. E. A. Dulin read a paper on "Circumcision." The paper was of much interest from an historical standpoint, as well as being of practical value to the practitioner.

The subject of treatment of infantile diarrhoea elicited quite a thorough discussion.

The president, Dr. C. B. Davis, appointed a committee, consisting of Drs. I. W. Ammerman, Joe Yater and V. O. Williams, to find a suitable building in which to carry on a post-graduate course for the benefit of the members of the society, and in which to open a free clinic for the worthy poor throughout the county.

It was moved and seconded that the society adjourn until the next regular meeting, July 3d, 1909.—V. O. WILLIAMS, M. D., Secretary.

CORRESPONDENCE

TO THE EDITOR:

There is a movement on foot to establish an American Association of Clinical Research for the purpose, first, of ascertaining the present exact status of clinical medicine and surgery, and, secondly, of advancing clinical medicine and surgery, by the conjoined clinical method or any other method that will insure exact and abiding results.

Will you have the kindness to publish the accompanying open letter in the next or the earliest possible issue of your JOURNAL?

The meeting is called for October 27 next, and your assistance in calling attention to this meeting sufficiently early will be highly appreciated as an effort to help the cause of scientific medicine and surgery.

With fraternal thanks for your courtesy, I am,

Yours very truly,

JAMES KRAUSS,

Chairman Committee American Association of Clinical Research.

"A meeting of physicians and surgeons interested in Scientific Clinical Research is called for Wednesday, October 27, 1909, at John Ware Hall, Boston Medical Library, No. 8 Fenway, Boston, Massachusetts. The meeting will come to order at 10 a. m., and carry its sessions through Wednesday, and, if necessary, through Thursday and Friday.

The object of the meeting is:—

First, to establish an American Association of Clinical Research;

Secondly, to establish clinical research on an incontrovertible scientific basis in hospitals; and

Thirdly, to institute an American Journal of Clinical Research, in which the work of members of the American Association and of others doing clinical research work in a scientific manner shall be published.

You and your friends are herewith cordially invited to participate in this meeting and in the proposed movement of scientific clinical research.

This invitation is extended to all physicians and surgeons whose interest goes beyond the immediate case work of ordinary clinical societies; and it is hoped that the invitation will be accepted by all medical practitioners, irrespective of their present medical affiliations, who can appreciate the necessity for establishing on an incontrovertible scientific basis the certainties and limitations of the present practice of medicine and surgery before attempting to add to the already large and cumbersome field of medicine.

The American Association of Clinical Research is not intended to disturb the present medical affiliations of its members nor to interfere in the very least with the duties they owe and the privileges they enjoy by virtue of their affiliation with any existing national medical body.

The American Association of Clinical Research is to take cognizance of the fact that the clinic requires cold facts and conclusive methods, and

upon these fundamental requirements, the structure and the work of the American Association of Clinical Research are to be built.

It is of the utmost scientific importance to establish conclusively all that is at present true in medicine and surgery, and only upon such proved knowledge, to base any further advancement. The clinic deals with clinical entities and not, like the laboratories, with parts as entities. Therefore, clinical research differs, and must differ, from experimental laboratory researches. Clinical research must consider clinical entities, and when considering parts, it must consider them only as parts and not as wholes. All that subserves the object of obtaining and investigating clinical facts and principles belongs to clinical research and the laboratory is a part of the means of clinical research, but only a part.

The crux of the matter appears to be that experimental laboratory proof is not sufficient clinical proof. In order to advance in an irresistible line, clinical research must be based on a conclusive form or method of clinical proof. In experimental proof, we dislocate a part from a whole and attempt to prove the whole from the part, as though a dislocated part could always prove the whole. Or, we attempt to prove facts in one species by facts in another species, as though the two species were identical. For instance, the experiments made on animals to elucidate certain elements of fever bring out a fact of almost insurmountable difference between man and the lower animals, the fact that man has associated with the nakedness of his body a highly perfected power for regulating his temperature, a highly developed vasomotor system and a vast array of sweat glands, a characteristic complex of things which apparently no other species of animal life presents. Experiments made on animals to prove febrile or other clinical phenomena in man may be suggestive, but for obvious reasons cannot be conclusive. To prove observations in man, the observations must be made on man and not on animals. But observations on man even are not necessarily conclusive. Individual observations on man cannot be conclusive, because the same experience cannot be repeated, and when we prove by numbers, we compare similar but not identical experiences. Analogy is not conclusive proof. Identity alone is conclusive proof; but since, in medicine, identical experiences cannot be repeated, we must provide simultaneous identical experiences in order to have proof by identity. Clinical proof is conclusively established when all observations and experiments are made conjointly by at least two competent men, preferably of opposite ideas, at the same time. Conjoined critical observation and experiment, at the bedside and in the laboratory, as may be required, furnish simultaneous identical experiences, the proof proceeding on the principle that a whole can be proved only by the whole and not by dislocated parts.

These and other weighty questions await your assistance for a necessary solution. The benefit that will accrue, both to medicine in particular and to the medical profession and humanity at large in general, from a satisfactory establishment of scientific clinical research, can be easily surmised. Come prepared, yourself and your friends, to give to this matter your mature convictions and your personal assistance. Only from a critical interchange of critically acquired opinions, can we hope for clearness and for the clarification of the medical atmosphere now charged with confusion and indifference.

Your communication, indicating your interest and your expectation of being present at the meeting in Boston on October 27, next, is eagerly awaited, and on receipt of the expression of your interest, further developments will be communicated to you personally in due time.

Please address your communications at the earliest possible date directly to JAMES KRAUSS, M. D., 419 Boylston Street, Boston, Massachusetts.

Yours fraternally,

JAMES KRAUSS, M. D.,

Chairman Committee American Association Clinical Research."

419 Boylston Street, Boston.

A BOOSTING CLUB.

To the Editor:—Why not a "Booster Club," or "Praise Your Brother Club" in the American Medical Association, with no dues or other requirements except that each member pledge himself never to speak unkindly or in criticism of a brother physician to the laity, except that physician be also present. Let us renew our vows and wear buttons to show that we mean to keep them.

If such a condition could be brought about we would be held in much greater esteem by our patients and neighbors. Whenever a physician is condemned, maligned or criticized by another physician, the ill-will engendered in the minds of the laity is not against the one physician but the class—individuals are forgotten and the profession is remembered as a whole. If I tell everyone I meet that Dr. Pill is a rank physician; knows nothing of medicine, and will stoop to any mean practice, the laity soon forget that Dr. Pill is a "poor doctor" and retain the impression that we are all "poor doctors" ready to stoop to anything.

Let's stop it; raise the standard. Can we get together at St. Louis and organize a club?

Yours for "no knocking."

W. T. WOOTTON, M. D., Hot Springs, Ark.

The above from the *Journal A. M. A.*, of August 7th, 1909. Will you agitate such a scheme to the end that we may create a better general impression upon the laity, restore confidence in our profession and take away the foundation for so many pathies, religio-cures, etc.?

Very sincerely yours,

W. T. WOOTTON.

STATE BOARD QUESTIONS AT THE EXAMINATION FOR
 LICENSE TO PRACTICE MEDICINE, KANSAS
 CITY, MAY 17, 18, 19, 1909.

ANATOMY.

- (1) Give gross and minute anatomy of liver.
- (2) Describe minutely the urinary bladder.
- (3) Give origin, ending, branches and relationship of ulnar artery.
- (4) Describe the shoulder joint.
- (5) Describe the femur.
- (6) Name all structures divided in amputation of forearm, middle third.
- (7) Name and describe the fifth pair of cranial nerves.
- (8) Give nerve and blood supply of uterus.
- (9) Describe Scarpa's triangle, giving contents.
- (10) Describe the meninges of the brain.

BACTERIOLOGY.

- (1) What are the conditions under which pathogenic micro-organisms enter the system and multiply.
- (2) Describe in detail a method for staining the gonococcus.
- (3) Describe a method of staining and the microscopic appearance of the streptococcus pyogenes aureus.
- (4) What are toxins and what is meant by antitoxins, natural and cultivated?
- (5) What is meant by immunity? Give two examples in which immunity is artificially produced as a preventive against disease.

CHEMISTRY.

- (1) Discuss incompatibility of mixture containing lead acetate and zinc sulphate. Give chemical formula representing this mixture.
- (2) How would you make and preserve a solution of argentic nitrate? Give its incompatibilities.
- (3) Where is iodine found in the body and by what tests do you discover it?
- (4) Give chemical formula for calcium phosphate, potassium permanganate, sodium sulphate and sodium bicarbonate.
- (5) Give formula for manufacturing iodoform and salol.

GYNECOLOGY.

- (1) Define anteversion and retroversion. Give causes and treatment.
- (2) Define subinvolution. Give cause and treatment.
- (3) Describe vaginitis, giving forms and treatment.
- (4) Describe endometritis, giving causes and treatment.
- (5) Give dangers of gonorrhœa in female. Give treatment.

HYGIENE.

- (1) Give source of infection, period of incubation, duration of quarantine in smallpox, diphtheria and scarlet fever.
- (2) Give etiology of cholera infantum. Give dietetic and prophylactic care of same in detail.
- (3) Name four milk preservatives. Give method of testing for same.
- (4) Name various methods for fumigation, giving comparative value of each and method of application.
- (5) Discuss toxins and antitoxins.

JURISPRUDENCE.

- (1) What is the difference between a blister from the application of heat to the living and upon the dead body?
- (2) What are the tests by which you would determine that a child had lived at birth?
- (3) What are the signs of suffocation?
- (4) What are the indications in the genital tract and in the peritoneum from which the conclusion is justified that a woman had died from an abortion before the third month?
- (5) What would be the post-mortem findings in a perforating gunshot wound on the left side in which the bullet had entered at the fifth intercostal space, four inches to the left of the median line of the sternum?

OBSTETRICS.

- (1) Name and give function of organs of generation.
- (2) Define placenta prævia, giving diagnosis, prognosis and treatment.
- (3) Give signs of pregnancy at 3d month, at 5th month and at 7th month.
- (4) Differentiate a multigravida from a primigravida.
- (5) Give the mechanism of labor in L. O. A. presentation.
- (6) Define puerperal eclampsia. Give treatment.
- (7) Define puerperal septicemia. Give treatment.
- (8) When should forceps be used? Give manner of application in L. O. A. position.
- (9) Give mechanism of delivery in breech presentation.
- (10) Diagnose knee-shoulder transverse presentations.

PATHOLOGY.

Give pathology in each of the following diseases:

- (1) Posterior spinal sclerosis.
- (2) Catarrhal gastritis. (Chronic.)
- (3) Cirrhosis of liver.
- (4) Scarlet fever.
- (5) Give pathology in 1st and 2d stages of lobar pneumonia.

PHYSIOLOGY.

- (1) Explain the heart sounds. What is meant by reduplication of the heart sounds?
- (2) What is the influence of the respiratory movement and of variations of intrathoracic pressure upon the pulse?
- (3) Where are the red blood corpuscles reproduced?
- (4) Describe in detail the secretion of urine.
- (5) Name the ductless glands, and give, as far as is known, the function of each.
- (6) Name the ferments of digestion and give the action of each.
- (7) Describe in detail the function of the mammary gland, and give the composition of human milk.
- (8) What are the muscles of inspiration and what function does each one of them perform during the act of inspiration?
- (9) What is meant by nerve impulse? Give the direction of nerve impulse and the effect of impulses upon the cell body.
- (10) Describe the oviducts, and give their function.

PRACTICE.

Give etiology, symptoms and treatment of each of the following diseases:

- (1) Dysentery—acute.
- (2) Diabetes mellitus.
- (3) Erysipelas.
- (4) Catarrhal gastritis.
- (5) How would you differentiate scarlet fever from measles?
- (6) How would you diagnose dilation of the heart?
- (7) How would you diagnose mitral regurgitation?
- (8) What is Skoda's resonance? How elicited and where found?
- (9) Give treatment of acute specific urethritis.
- (10) Write a brief but comprehensive paper of not less than 200 words on cholera infantum.

SURGERY.

- (1) Describe the symptoms of and give the treatment for acute arthritis of the knee joint.
- (2) Describe in detail the treatment of an open comminuted fracture of the tibia and fibula.
- (3) Differentiate between epiphyseal separation at the lower end of the femur and dislocation at the knee joint.
- (4) Give in detail the physical symptoms and signs of a purulent effusion into the left pleural sac. Explain the reasons for their existence and give in detail the treatment which you would institute.
- (5) Give the clinical symptoms of a carcinoma of the breast; describe the method of examination and give the reasons for the advice which you would give as to the course of treatment.
- (6) Give the clinical symptoms produced by a rupture of the middle meningeal artery without an external wound. What is the treatment for this condition?
- (7) Describe the symptoms of stone in the bladder in a child and give in detail the method of examination.
- (8) Given a case of stab wound of the abdomen: Describe the examination which you would make, the reasons for making it and explain the significance of what you would find and the treatment you would institute.
- (9) Differentiate carcinoma of the tongue and syphilis.
- (10) Describe Pott's fracture and give in detail the treatment at the first dressing.

THERAPEUTICS.

- (1) Give the physiological action, the therapeutic indication, and the dosage, of the various preparations of arsenic.
- (2) Name the source and various pharmaceutical preparations, and the dosage, of calcium.
- (3) Give the various preparations of cinchona, and indications for their use.
- (4) Give the therapeutic effect, the dosage and the uses of heroin.
- (5) Give the official preparations and therapeutic uses and dose of lobelia.
- (6) Give the therapeutic indication for the use of the ordinary preparations, and doses, of nitroglycerine.
- (7) Give the various official preparations of nux vomica, the indications for their use and the doses.
- (8) Name the more important official iron preparations and dosage of same.
- (9) Give the therapeutic indications for the use of salicylic acid and give the most commonly used preparations of the same.
- (10) Give indication and use of poke root, and the official name.

BOOK REVIEWS

ORTHOPEDIC SURGERY FOR PRACTITIONERS. By Henry Ling Taylor, New York: D. Appleton & Co.

A well-bound volume, with excellent typography, neatly illustrated—frontispiece, "The Stretch" of Rodin, and with a foreword from Strode,—"I will not follow where the path may lead, but I will go where there is no path, and I will leave a trail,"—makes indeed a brave combination that whets the thirst for a soul-slaking draught at the very fountain-spring of knowledge. There is but a single factor in this picture that tends to make one pause,—"*Orthopedic Surgery for Practitioners*," for so voluminous is the quantity and so puerile the character of much of the current literature served *en réchauffé* to that long suffering wing of the body medical, that one is sorely tempted to discount in advance productions bearing such titles. Nor does a somewhat careful overhauling of this volume make for a divorcement from this attitude. Save, perchance, for a somewhat reckless use of technical phraseology, and the introduction of sundry novelties, such as "ichor pockets" (p. 39), for which originality is claimed, the striking but meretricious foreword, above mentioned, may not be said to have been fulfilled. It would almost seem, when the average author produces a work directed "to the general practitioner" or "for practitioners," that he permits himself to drift under the influence of a spell that compels him to "talk down" to his audience to such a degree that his observations forfeit the right to a rigid scientific scrutiny.

In this particular volume is admixed a pompous phraseology alternating with a usage of the vernacular quite characteristic of works of this type. Among numerous instances of the latter may be found—"skipping patella," "heel cord," "snapping knee," "clicking knee," "joint mice," "in ankle," "in knee," "hollow claw foot," etc.—nor does the occasional use of the parenthesis as "drop phalangette" (Stern) or "hump foot" (Bradford) diminish the unfortunate crudity.

It may be asked, in all seriousness, have we not yet arrived at a stage in our surgical knowledge and philologic equipment that will justify us in discarding words and phrases, whose only merit lies in the honesty of their homespun forebears?

Works of this character are a trifle too technical for the use of a high school class, and yet exhibit a scientific unevenness that causes them to be somewhat attenuated pabulum for the palate of even the long-suffering and much bepatted-on-the-back "general practitioner." It might be readily imagined that one would encounter, in the light of the above, an occasional striking statement clothed in an authoritative dogmatism. Such are present, but lest an extended list might provoke the thought of unduly severe criticism, the following may suffice: "Paralytic congenital club-foot is caused by a *spina bifida*" (p. 365).

Query 1. *Is it always so produced?*

Query 2. *Is it often so produced?*

Faulty as the book is, whether from the standpoint of verbal infelicities or lack of scientific clarity and accuracy, it is, as a whole, by no means devoid of merit. The experience of Taylor as teacher of post-graduate classes has doubtless so moulded his mind and style, that perchance, largely unconsciously, he imparts his thought in the "compressed tablet" fashion. There is much that will prove interesting reading, some

that will prove helpful; and the "general practitioner" may well be counted competent to find in the five hundred odd pages sundry well-rounded grains, appropriate for his occasional need. Our gravamen lies not with Taylor nor Taylor's book, but with the class of which this volume is a fair exponent—"neither flesh, fowl nor good red herring."

700 SURGICAL SUGGESTIONS. Practical Brevities in Diagnosis and Treatment. By Walter M. Brickner, M. D., Editor-in-Chief, and Eli Moschowitz, M. D., and Harold M. Hays, M. D., Associate Editors American Journal of Surgery, New York. Third Series. Surgery Publishing Company, N. Y.

This excellent small work is indicated in scope by its title. The suggestions are grouped in such a manner as to render them easy of reference, and written in such a style as to make them easily remembered. Many suggestions on anesthesia, care of instruments, sutures and dressings are also included.

This little volume is well worthy a place in any doctor's library.
J. E. D.

ESSENTIALS OF MEDICINE. By Charles Phillips Emerson, M. D. Publishers: J. B. Lippincott Co., Philadelphia and London.

This volume is true to its name and more than its distinguished author claims for it. It treats concisely a wide range of subjects. It is not elementary in the usual sense, but it furnishes an admirable foundation for a thorough study of the matter treated of. It is a profitable book, as well as pleasing reading, and it certainly supplies a long-felt need in the library of every doctor who wishes to be well informed.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Vol. XI., No. 2, June, 1909. Octavo, 317 pages, with 52 illustrations. Per annum, in four paper-bound volumes, containing 1,200 pages, \$6.00, net; in cloth, \$9.00, net. Lea & Febiger, Publishers, Philadelphia and New York.

The June issue of *Progressive Medicine* deals with subjects of exceptional importance. W. B. Coley's large experience in the whole field of hernia enables him to write with authority, and renders every line of his article useful and informing. Of especial interest is the section on hernia and undescended testicle. E. M. Foote writes on the broad subject of abdominal surgery, and adequately covers all the many recent advances. Hirschsprung's disease, which has latterly been attracting much attention, and the surgery of the pancreas, are handled in a manner deserving particular notice. For several years J. G. Clark's review of the cancer problem has been the most noteworthy contribution in English medical literature towards the ultimate solution of this great question. His present article is no exception. It alone and apart from all the valuable accompanying papers is well worth the year's subscription. Alfred Stengel has summarized progress in diseases of the blood and ductless glands in a most interesting manner. His section on diabetes mellitus, a subject much to the front just now, is full of value to the general medical reader. Edward Jackson closes with a review of the year's developments in ophthalmology.